





## THE PULSOMETER PATENT STEAM PUMP,

Very largely adopted in Mines  
and Collieries.

### ADVANTAGES.

WILL WORK SUSPENDED ON A CHAIN.  
WILL PUMP THICK SANDY WATER FREELY.  
NO EXHAUST STEAM.  
NO SKILLED ATTENTION REQUIRED.

The Pulsometer is especially suitable for sinking shallow shafts, pumping out flooded galleries (see illustration), COAL WASHING, &c., &c.

### Direct-acting Pumping Machinery for High Lifts in Mines.

FULL PARTICULARS AND ILLUSTRATIONS ON RECEIPT OF PARTICULARS OF REQUIREMENTS.

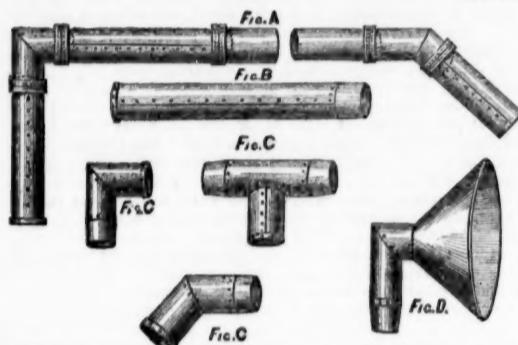
**THE PULSOMETER ENGINEERING COMPANY (LIMITED), NINE  
ELMS IRONWORKS, LONDON, S.W.**

CITY OFFICE AND SHOW ROOM, 61 AND 63, QUEEN VICTORIA STREET, E.C.

Light Wrought-iron Pipe for Sinking Work—Steam Hose—Pulsometers on Hire by Special Arrangement—Centrifugal Pumps—Three-throw Pumps, &c., &c.

## COLLIERY VENTILATING TUBES. WILLIAM THOMPSON,

MANUFACTURER OF



### Wrought-iron Buckets.



### Baskets, Kegs, Pit Tubs,



### Ash Barrow Bodies,



### Ventilating Tubes for

### Collieries, Tanks,



### Kibbles for Copper



### Mines, &c. General



### Sheet Iron Worker.

### COLLIERY VENTILATION TUBES.

Fig. A.—Shows the tubes adapted for any variation in direction.

Fig. B.—Straight length of tube.

Fig. C.—Different angle bends.

Fig. D.—Is a hopper to receive air at top of shaft.

Highfield Works, Ettingshall, near WOLVERHAMPTON.

## ROBERT BROADBENT & SON, STALYBRIDGE,

PATENTEES AND SOLE MAKERS

OF THEIR WELL-KNOWN

### Patent Improved BlakeStonebreakers and Ore Crushers,

With PATENT DRAW-BACK MOTION,

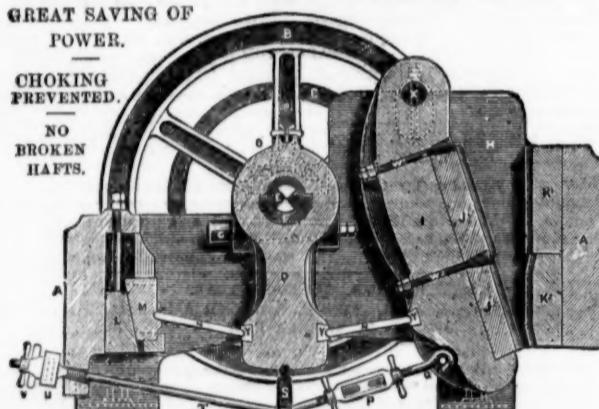
WHICH DISPENSES WITH ALL SPRINGS.

JAWS adaptable either for CUBING or CRUSHING.

Reversible in Four Sections, with Surfaced Backs.

Steel Toggle Cushions.

PRICES, PARTICULARS, AND TESTIMONIALS ON  
APPLICATION.



## The Only Knapping Motion Stone Breaker and Ore Crusher.

AWARDED THE ONLY SILVER MEDAL FOR MECHANICAL EXHIBITS  
AT THE ROYAL CORNWALL POLYTECHNIC SOCIETY,  
FALMOUTH, SEPT., 1881.

GUARANTEED to do MORE WORK with less power THAN ANY OTHER MACHINE in the World.

NOTE THIS FACT.

To Mr. Baxter, Leeds. *Cinderford, Feb. 13, 1883.*

DEAR SIR.—I am pleased to be able to tell you that the Machine works splendidly. We are breaking 16 trucks a day now and we thought it a good day's work to do 10 a day with the old Machine, so you can see the difference. I had a gentleman looking at it yesterday, and he was surprised to see it work so easily.

Yours truly, E. ORGAN.

The above refers to one of our 16 by 9 Machines we supplied to replace an "Improved Blake" 15 by 9 Machine.



GUARANTEED NO INFRINGEMENT OF ANY OTHER PATENT.

AWARDED THE ROYAL MANCHESTER, LIVERPOOL, AND NORTH  
LANCASHIRE AGRICULTURAL SOCIETY'S SILVER MEDAL,  
8TH OF SEPTEMBER, 1882.

FOR ILLUSTRATED CATALOGUE AND FULL PARTICULARS ADDRESS TO THE PATENTEES AND SOLE MAKERS,

**W. H. BAXTER & CO., ALBION STREET, LEEDS.**

### Registration of New Companies.

The following joint-stock companies have been duly registered:—

**THE NORTHERN MINERAL COMPANY (Limited).**—Capital 2000*l.*, in shares of 10*l.* The business of miners, workers, and purchasers of, and to search for, get, raise, transport, make merchantable, and deal in asbestos, or goods connected with the utilisation thereof, and other minerals, metals, and substances, and to manufacture, sell, or otherwise dispose of the same. The subscribers (who take one share each) are—R. Ewing, Cheshunt, gentleman; E. Brockelbank, 37, Tyrwitt-road, stockbroker; H. King, 3, Brookville-road, gentleman; P. Everitt, 53, Queen Victoria-street, engineer; H. L. Sack, 8, Sunderland-road, clerk; F. M. Brockelbank, 10, Belgrave-terrace, gentleman; N. Trouson, 2, Cushion-court, Exchange broker. No Articles of Association have been registered.

**HATCHER, CLIFFORD, AND COMPANY (Limited).**—Capital 15,000*l.*, in shares of 1*l.* To purchase and carry on at Southampton a business of yacht and boat-builders, ship chandlers, &c. The subscribers are—W. R. Robinson, Southampton, 110; R. Revett, Ealing, 100; G. H. Mansell, Southampton, 10; A. H. Cobbold, Southampton, 2; W. B. G. Bennett, Southampton, 6; A. Scarisbrick, Millbrook, 10; W. C. Kenny, Southampton, 10.

**THE ANTWERP LAND CORPORATION (Limited).**—Capital 100,000*l.*, in shares of 5*l.* The usual business of a land company and building society. The subscribers (who take one share each) are—M. L. Alexander, Highbury; J. Cowley, New Inn Yard; W. J. Hurley, 22, Addison-terrace; H. R. Watson, Southgate; F. Hay, 2, East India Avenue; J. Hendrick, 394, City-road; M. N. Poton, Hampstead Lodge

**MESSRS. WILLIAM TAYLOR, JUN., AND COMPANY (Limited).**—Capital 50,000*l.*, in shares of 10*l.* To acquire and carry on a paint, oil, colour, and varnish manufacturers' business established in Limehouse, Middlesex. The subscribers (who take one share each) are—W. Taylor, Limehouse; W. R. Taylor, Liverpool; C. S. Taylor, Liverpool; F. C. Clark, Liverpool; W. S. Weir, Limehouse; F. Beddoe, 2, Gresham Buildings; G. F. Taylor, Liverpool.

**CONTINENTAL RAILWAY AND GENERAL ACCIDENTS ASSURANCE COMPANY (Limited).**—Capital 200,000*l.*, in shares of 12*l.* In France and elsewhere, an assurance business against accidents on railways, roads, and sea, and of all other descriptions. The subscribers (who take five shares each) are—F. Russell, 44, Norland-square; W. F. Willis, 20, Old Burlington-street; M. R. Lochner, 133, Lancaster-road; E. W. Dennis, St. Stephen-square; H. Smith, 26, Basinghall-street; J. Pearce, 94, Trafalgar-road; C. Berry, 265, Gresham-house.

**THE SHIPBUILDING GUARANTOR SOCIETY (Limited).**—Capital 500,000*l.*, in shares of 5*l.* To guarantee the construction of ships and floating craft of every description, the construction of machinery, engineering works, plants, &c. The subscribers are—P. Brandon, 4, Guildhall Chambers, 100; A. Hartley, Wimbledon, 100; A. Stuart, 29, Great St. Helens, 100; H. Beville, Hall, 100; E. Rutherford, 95, Leadenhall-street, 100; J. A. Naylor, 115, Leadenhall-street, 50; E. H. Rutherford, 95, Leadenhall-street, 10.

**THE SOUTH WALES CRYSTALLISING AND DECORATING COMPANY (Limited).**—Capital 30,000*l.*, in shares of 5*l.* To acquire certain tin-plate works situated at Raglan, and continue the business in connection therewith. The subscribers are—C. A. Purnell, Swansea, 600; D. Lewis, Swansea, 10; W. E. Jones, Swansea, 10; N. D. Lewis, Swansea, 10; D. T. Lewis, Neath, 10; E. W. Hampton, Swansea, 1; T. H. Hosgood, Swansea, 1.

**THE LEEDS AND COUNTY CONSERVATIVE CLUB HOUSE COMPANY (Limited).**—Capital 25,000*l.*, in shares of 5*l.* To acquire any land, buildings, hereditaments, &c., for establishing and maintaining a club-house. The subscribers (who take one share each) are—E. B. Faber, Leeds; G. Irwin, Leeds; F. Dunsford, Leeds; J. Barber, Leeds; J. Gordon, junior, Leeds; E. Appleby, Leeds; H. Armstrong, Leeds.

**THE BLACKMAN AIR PROPELLER VENTILATING COMPANY (Limited).**—Capital 115,000*l.*, in shares of 50*l.* To acquire and carry on at the Holborn Viaduct (No. 46), a business in connection with patents for "improvements in ventilating and exhaust fans," and the applications thereof. The subscribers are—Duke of Sutherland, Dunrobin Castle, 10; H. Green, 93, Belgrave-road, 5; H. Wright, Dunrobin Castle, 2; S. Wright, Hampton Court, 1; W. Mackinnon, Balmakill, 10; J. T. Griffin, 36, Worship-street, 1; E. L. Sheldon, 3, Lombard-court, 5; J. G. Graig, 17, Austin Friars, 2; G. Greig, Edinburgh, 1.

**THE TRAMWAYS AND PUBLIC WORKS (IRELAND) CORPORATION (Limited).**—Capital 500,000*l.*, in shares of 10*l.* To construct, maintain, improve, and work (either directly or by contractors) tramways, railways, telegraphs, telephones; also wharves, jetties, piers, harbours, and other public works. The subscribers (who take one share each) are—T. C. Briggs, 94, Piccadilly; M. F. Dorner, Balham; C. C. Baker, Clapton-park; T. Hendrick, 394, City-road; J. Young, 39, Pomeroy-street; R. Chatham, 75, Everington-street; A. Boote, Battersea.

**THE WOLVERTON AND STONY STRATFORD AND DISTRICT TRAMWAYS COMPANY (Limited).**—Capital 20,000*l.*, in shares of 12*l.* To construct, lay down, equip, maintain, and work tramways in the county of Buckingham. The subscribers are—J. S. Pierce, Putney, 10; C. Aveline, Wolverton, 10; A. Culverhouse, Wolverton, 10; J. L. Cooper, 76, St. Paul's-road, 1; H. Freeman, Clapham, 1; A. Martin, Brixton, 1; J. T. Carr, 15, Warwick-street, 1.

**FFARINGTON, ECKERSLEY, AND COMPANY (Limited).**—Capital 100,000*l.*, in shares of 50*l.* To acquire certain mills situated at Wigan, and continue the business of cotton spinners, doublers, &c. The subscribers (who take one share each) are—N. Eckersley, Wigan; F. W. Reynolds, Liverpool; J. Brown, Wigan; N. F. Eckersley, Wigan; J. G. Reynolds, Liverpool; A. Reynolds, Liverpool; C. S. Agnew, Manchester.

**WOODBURY, TREADAWAY, AND COMPANY (Limited).**—Capital 10,000*l.*, in shares of 12*l.* The business of manufacturers in connection with an "Invention of improvements in printing surfaces." The subscribers (who take one share each) are—W. B. Woodbury, South Norwood; A. Butcher, Penge; F. C. Hoyle, Upton Park; F. Rose, 11, Bonner-road; J. J. Whitty, Camberwell; A. Gardner, West Ham; A. A. Yeatman, Finchley.

**THE CHANNEL SYSTEM OF TRAMRAIL.**—Tramways having now become an established institution in the country it is but natural that inventors should exert themselves to the utmost to reach perfection, and in their efforts in this direction the Patent Tram Materials Company of Westminster Chambers appear to have been very successful. The system is very simple, although the construction is not very easily described without diagrams. According to our arrangements two longitudinals of truncated right-angled triangular section are formed; one screw in a scantling, 4 in. by 8 in., giving 3 in. bearing surface to the rail, and 5 in. bearing surface on the street foundation. The length of the pieces is immaterial. The bolt holding the rail in place may, if hard wood longitudinals are used, be a coach screw; but if soft wood is used an ordinary fang nut is employed, so that the bolt merely passes through the timber, and grips it by means of the fang nut. The head of the bolt is a cone, which, in descending, fits into a similar coned space, formed by the channel and a loose parallel key, about 2½ in. long. Thus, the force developed by screwing the bolt into the nut acts both downwards and laterally, thrusting the rail against the side and bottom of the channel, while pulling together the channel and the nut firmly gripping the longitudinal between the two. The rail proper rests in a continuous channel, of which one side forms the guard-rail, while the other side and bottom support the rail. The lower flange of the rail is notched out, that it may be dropped vertically over the bolt-head after the bolt is in position in the channel and timber, so that the actual rolling surface when worn is economically renewed without disturbing the street surface. The rail and channel break joint, therefore wherever the rail-joint may occur the channel acts as a combined fish and joint plate, and one tie-bar holds both rails securely in gauge. The tie-bars are formed from ordinary bar-iron, notched to receive the channel. As the channel must be laid in the notches it is impossible to lay the road out of gauge. There are, of course, several modifications of the system, which will readily suggest them.

selves; but the principle remains the same. The great recommendation is that the track can be relaid without disturbing the roadway, and this will, doubtless, suffice to ensure its very general adoption.

### Original Correspondence.

#### CHILIAN COPPER MINES.

SIR.—Contrary to general expectation copper remains at the low price of 64*l.* per ton for Chili bars. Happily for the shareholders both of the Chilian copper mining companies whose share are dealt in on the London Stock Exchange have shown that they can make large profits with copper at low prices. Although the accounts of neither company to June 30 are yet issued both the Panulcillo and the Copiapo Company have notified the amount of their approximate earnings, so that the dividends can be easily estimated. It may be interesting to investors to contrast the profits made by the two companies:—

For the 12 months ending June, 1883, the Panulcillo profits at Chili amount to 39,000*l.*, against 44,000*l.* in the previous year. The debenture interest, London office expenses, &c., will reduce these profits to 31,000*l.*, admitting of the payment of a dividend of 15 per cent. Of this sum 12*l.* per cent. has been already distributed, leaving 2*l.* per cent., or 3*l.* per share to be paid at the end of next month. The Copiapo Company's profits, including those of the agricultural estate for the 12 months ended June, amounted to 23,015*l.*, against 20,980*l.* in the previous year. The London office expenses, there being no debenture interest to pay, will reduce the amount available for dividend to 21,400*l.* Of this nearly 11,250*l.*, or nearly 6*l.* per cent. have been distributed in quarterly dividends, leaving 10,150*l.*, or 5*l.* 80 per cent. to be paid when the accounts are sent out early in November. Thus the dividend for the year will be about 12*l.* per cent. The Copiapo Company sold some forfeited shares last December at 4*l.* per share. There is a profit of 5000*l.* on this transaction, but I have not taken it into account.

Now the Panulcillo Company's shares at present prices give a return on the price of about 9*l.* per cent., while the Copiapo shares yield nearly 10*l.* per cent. Both companies would benefit by any rise in the price of copper. If a final dividend of 4*l.* or 5*l.* per share be announced in November, Copiapo shares may rise to the price at which they stood last December. There is always the possibility of a silver mine, which the Copiapo Company has hitherto worked at a loss, becoming remunerative, and in this case the value of the property would be doubled. The present appears to be an excellent moment for investment in either concern. J. C. B.

London, Sept. 13.

#### WEALTH OF THE SOUTH-EASTERN STATES OF NORTH AMERICA.

SIR.—In a recent number of the Journal was an extract from the Scientific American on the wealth of South-East Virginia, which included a portion of this as well as other States in the area of from 12,000 to 14,000 square miles. I subjoin an extract from the Journal Observer, published at Charlotte, 71 miles south of this place. In it will be seen mention of many specimens of timber that have been sent to an exhibition that is just about to be opened at Boston. Many very large pieces of timber have been cut near here, and sent to that place as samples of the timber wealth of this State. They were in lengths of 4 ft., and represented most of the valuable hard wood found here, several much larger, even up to 8 ft. diameter, but for the difficulty of cutting and transport to the railway. Almost daily large numbers of logs of very fine walnut are taken past this place for shipment, either to be used in the Northern cities or to be sent to Europe. The article says:—. . . But the best of all, and the one which will speak with the best effect for North Carolina, is the exhibit which will be made under the management of Dr. Dabney, who has been entrusted with that mission by the Department of Agriculture. He reports gratifying progress, and in a letter a few days ago to the Raleigh News and Observer, says among other things:—

The lumbermen marvel at the magnitude, the variety, and the beauty of our woods. They are very enthusiastic over our big cherry trees, our black walnuts, our curly maples, curly poplar, and curly pine. One lumberman, who has made a business of travelling all over this country from Maine to California, said to me yesterday that he did not know that such timber existed in this country. I was yesterday with the stone workers who are polishing our marbles and granites. Some of the specimens are ready, and I was astonished at their beauty and novelty. The Pee Dee black granite presents now a mirror-like surface, equal to anything I ever saw. The foreman of the shop said it was as fine as any granite in the world—better than a great deal which is sold here at 8*l.* 50 per foot. Some of our porphyritic granites are pronounced perfectly unique. We have some specimens here containing olive-green felspar, purple quartz, and black hornblende, which attract great attention, they are so odd. Our grey and flesh-coloured marbles from Cherokee and Nantahala are as fine, they say, as any to be found anywhere. The flesh-coloured marble ought to be as valuable for ornamental work as the coloured Italian marbles. I only mention a few things which have been prepared and examined by experts. I know that we have enough surprises and delights for these people, when we shall get all of our boxes unpacked, to keep them in a state of electrical shock for two months at least."

It would be difficult to convince the Bostonians, or any other people, without ocular proof, that 40 different varieties of marble are found in one county in this State, and that not a very large county either, some of which are as beautiful as any marble ever taken out of the ground. With the exception of the mining belt proper there has been, until within the past few years, practically nothing known about the wonderful and varied resources of this State, even among our own people, much less people at a distance. But the Agricultural Department, encouraged and co-operated with as it has been by the State Press and progressive business men of the State, has done much in disseminating valuable information on this subject, while some of our railroads, catching the spirit, have also done much in securing fine collections of our stones, minerals, timbers, &c., for exhibition. With the zeal in this direction, and which is increasing every year, we have hopes that it will not be many years before the people of other States will have some conception of what North Carolina really is, and what an inviting field it presents to the toiler and to the capitalist.

Concerning the iron industry of the South—which, like the mining, is open to any amount of development, all that is required being capital and judicious management—the Journal-Observer says:—A leading Alabama furnace-man states that his works are steadily producing pig-iron at 8*l.* per ton, and as further saying that the cheap labour and cheap material in the South enables it to produce iron at lower figures than England can do. Virginia produces iron at 12*l.*, Tennessee at 8*l.* 1 per ton, while in Pittsburgh, Pa., it costs 19*l.* With these facts looming up who can doubt that the South will ultimately control the iron industry of this country? As another evidence of the ability of the Southern furnaces not only to hold their own but to beat their Northern competitors, while numbers of Northern furnaces and mills have been compelled to shut down, temporarily at least, not one Southern furnace has been stopped, but several of them have added to their works to increase their capacity. And yet this industry in the South is but in its infancy, with both limited experience and limited capital to back it, while in the North it has had the best of skill and capital unlimited. But capital goes where it pays best, irrespective of geographical lines, and skill is commanded by capital, and both of these will soon seek Southern fields, which present such striking figures as those we have quoted above. As the spindles and looms will go to the cotton fields so will the forges and the anvils go to the iron veins which yield freely and cheaply. And while the South is destined to be not only the cotton producing but the cotton manufacturing section of the world, so will it be the great iron producing and iron manufacturing section.

Almost daily good openings are presented to my notice, and it

really is a sad thing to know how much capital is now seeking employment in England that might here be turned to large profit could the capabilities of the South-Eastern States be brought before an investing public. It is strange to me that even Northern men have hitherto neglected this. I may give an instance. Vast quantities of wood suitable for making wheels is found here, and is sent to the North to be converted into wheels, which are then sent back here to be used. I hear there is an idea of making these near here; but during the existence of these States no such things have ever been made in any of them, although labour is less than half what is paid in the North. Yes, indeed, there are numberless openings in these South-Eastern States, which are rich in everything but capital. In a few days I will send you a detailed account of the mineral products of the counties in this State of North Carolina, which is nearly as large as England, yet it has only 1,399,750 of population.—Thomasville, N.C., Aug. 30. HENRY MOON, M.E.

#### MINING NOTES AND RECOMMENDATIONS.

(WEARDALE.)

SIR.—The difficulty of obtaining direct information as to what has been accomplished at Weardale is well known. The mines, originally leased to the Blackett family, and later to the Beaumonts, were worked privately, and there was, therefore, not the necessity for the publication of results of the adventure. However desirous the public might have been to know what had been done, or was being done, they would have found no encouragement from the lessees—indeed, if we are to be guided by general assertions everything of statistical character was kept private, not with the intention of hindering the compilation of mining statistics, for at the period referred to there was little or no attention paid to such things, they are of a later birth. The objection appears to have lain in the fear of a heavier rent being imposed. The secrecy with which the Weardale Mines have been worked involves a question of principle in relation to Church and State, but it is not necessary to discuss them here. The facts developed by the action of Bishop Barrington are all that we wish to be acquainted with. When the Bishop was promoted to the see of Durham he was waited upon by the agent of the mines after the customary manner to arrange the rent to be paid in lieu of the lot one, a charge to which the Bishop was entitled. Quoting from the evidence of Mr. Davidson before the Parliamentary Committee the Bishop said—“Well, I am a stranger to it, but if you will tell me what it (the lot one) is worth I am perfectly ready to agree with it.” After some little discussion the agent said—“It might be worth 800*l.*” About the sum paid to the Bishop's predecessor. “Well, if it is worth 800*l.* I will take it.” The agent replied—“Well, I do not mean to say that that is the exact sum; it is worth, I will say, 900*l.*” The answer was—“If you say 900*l.* I will take 900*l.*” This sum was agreed to be paid during Bishop Barrington's incumbency. It afterwards came to the knowledge of the Bishop that the lot ore was worth 4000*l.* a year, and so he consulted with his friend Sir Samuel Romilly. Following the advice received a bill was filed in Chancery, and after several years' litigation an order was obtained for 4000*l.* a year rent and all arrears, the total being 70,000*l.* 19,000*l.* of this amount was spent in building and endowing a school at Bishop Auckland, and the balance in institutions connected with the Church.

The price of lead in those times was very different to what it is to-day, and occasionally very high prices were obtained—for instance, in May, 1836, pig-lead was nearly 30*l.* per ton. As may be conceived this price was not long maintained, for an increased output soon came about, giving, too, spur to Welsh mining. Taking a later period—1860 to 1874—the average price of pig-lead was 20*l.* 15*s.* 8*d.* per ton, so that altogether enormous profits must have been made at Weardale. Turning to correspondence in the Northern Echo for February, 1882, it is stated that the lessee declined to furnish information to the Commissioners in support of a request for a modified rent, and therefore they were obliged to avail themselves of other means of ascertaining the approximate working costs and profits. The average output for the seven years ending 1878 was 8000 tons of ore, and the average price of the ore was found to be 10*l.* 10*s.* for those years. The year 1878 was taken as a fair year, and after allowing liberal expenses and deducting the same the sum stood thus:—8000 tons at 10*l.* 10*s.*, 84,000*l.*; expenses, 50,000*l.*, leaving profit for the year 34,000*l.* “If these estimates were extended to the years 1872 and 1877, when the price of lead ore amounted on the average to 14*l.* 7*s.* per ton, the net profits would be found to have been not less than between 50,000*l.* and 60,000*l.* per annum.” In a work on Lead Mines, published a few years ago, it is stated that the Weardale Mines through the generations which they have been worked have yielded 4,000,000*l.* to 5,000,000*l.* to the lessees, and the writer goes on to say “they are still very profitable, and are likely to remain so for years to come.” E. R. GABBOTT.

#### THE WEARDALE MINES NUGGET.

SIR.—I am astonished that your correspondent, Mr. Gabbott, in his interesting letter, has not noticed the nugget found in these mines by the vendors to the company, one of whom is I think a director of the Leadhills Mines, and for aught I know may have been one of the finders of the nugget got there. The Weardale nugget was not so large as the Leadhills nugget, but was it not worth 600*l.*, and as I see only 50,000*l.* has been called up this forms 12 per cent. of the money spent.—Rutherford, Sept. 10. R. T. M.

#### CORNISH MINING—NEWLYN EAST DISTRICT.

EAST WHEAL ROSE AND OLD SHEPHERDS.

SIR.—This district of all others stood pre-eminent for a number of years. That there has been no great discovery for the last 30 years or more has been due to the lack of enterprise; true, attempts on a small scale have been made within this period, and had more money and perseverance been brought to bear the district would have continued to rank second to none in the county. There are many lodes within an area of a circle three miles diameter, with highly crystalline evans and cross veins intersecting them, to which is not a little to be attributed the great accumulations of mineral met with in all the rich mines of the county whenever lodes come in contact with such intersections; indeed, they are essential for the production of mineral. Nature makes no mistake. I may as well be told that an apple tree can produce fruit without the beautiful indications of its blossom, as to be told that mineral in lodes is to be found in paying quantities unless in connection with such up-heaves. The study of its scientific associations and geological phenomena gives convincing evidences of this assertion, and experience emboldens me to assert that there is not one-half the mystery connected with mining as would appear to deter private capitalists from its study.

The two great mines of the district, and indeed every district that I know of, made all their riches under the circumstances mentioned. A visit to East Wheal Rose will repay anyone having a thirst for scientific research, and can soon discover the cause of the great deposit of mineral in the last working. The levels as the water is being drained are taken up from where the late workers left off, and are being extended in the new or unwrought ground. The most southerly shaft of the sett is called Roberts', which is sunk to the 40 only. From this shaft to the extremity of the sett south is about 400 fms. of unexplored ground. In it at this shallow depth the lode is turning out 30 cwt. of lead per fathom. The 40 end has been driven south 18 fms. through a lode for the whole distance worth about 1 ton of lead per fathom. I do not attach so much importance to its present as to its prospective value, it evidently being the outcrop of a valuable deposit of silver-lead below. The lode altogether is a masterly one, being from 4 to 5 ft. wide, and like the outcrop of mineral generally make a small leader to begin with, widening on deeper development. Analogy points to a deposit of lead being near this spot, as about 10 fms. ahead of the 40 end there is a cross-vein, the influence of which is already telling on the value of the lode. This cross-vein intersects all the north and south lodes of the sett in virgin or unwrought ground, and it is this ground that augurs as well for the present company, as did the north ground

for the late company when at the same depth, which afterwards gave East Wheal Rose a name of wide world celebrity. All the levels from the 40 down to the 110 are within practical distance of this ore ground, and must open out a mine of very great value.

Another important property of the district is Old Shepherds Mine, containing a group of lodes running parallel to and within a short distance of each other, giving another confirmation of my experience of the effect of cross-veins, evans, and such like. The deepest point, the 120 fm. level, is being drained by powerful machinery, and clear to the 72 fm. level. In the drivages so far as cleared the leader or silver-lead part of the lode has all been taken away, and from the nature of the workings must have been very rich. In proof of this the last workers smelted their own lead and silver ore on the mine. The lodes are large, and what is left of them so far as cleared contain quantities of blonde with patches of lead. The mine has not been wrought for over 60 years, blonde at that time being of no commercial value, zinc metal not being known. This ore now fetches from 3*l.* to 5*l.* per ton. The old workers seemed to have had two distinct deposits of lead, about 50 fms. apart, converging in depth, and look as if they would form into one lengthened mass of mineral in depth. Records preserved state that the lode was merely cut through at the bottom of the shaft and proved to be worth 4 tons of silver-lead per fathom (the old section does not show any drivages at this level) when the mine came to an abrupt termination, owing to its ownership being disputed. This place has not been seen since, but without unforeseen let or hindrance another six months will bring them to this interesting point. There is about  $\frac{1}{4}$  mile west on the course of the lodes undeveloped, the value of which is not easily calculated, after which the lodes enter Wheal Albert sett, on which I hope, at no distant date, to make some remarks on its hidden wealth, together with other properties in the district.—Scorrier, Cornwall, Sept. 12. CHAS. BAWDEN.

#### DERIVATION OF HUEL, OR WHEAL.

SIR.—Bal, in old Cornish language, properly signifies pick or shovel, but was commonly used to designate a parcel of tinworks. Huel, whence our term Wheal often prefixed to names of mines, has the same meaning as Wheal-an-Vor—i.e., “the tin works by the way.”

St. Day, Scorrier, Sept. 12. CHARLES BAWDEN.

#### CORNISH LANGUAGE—HUEL OR WHEAL.

SIR.—Your correspondent, Mr. Vincent, writing on the subject of the prefix Huel and Wheal to the names of Cornish Mines, says that the late Mr. George Henwood referred the origin of the term to the ancient Cornish word, huel or hole, and suggests that huel might have meant a mine without a (water) wheel, and wheal a mine with a wheel. Will Mr. Vincent pardon my expressing the opinion that the words huel and wheal have never differed in signification, and that the difference has consisted in the orthography only? I must confess myself also unwilling to fall in with the theory of the derivation of the prefix propounded by Mr. Henwood. I fail to find in ancient Cornish, Armorican, or Modern Welsh a single word similar to it in form or sound, which signifies a hole. The Cornish for hole was tol, which is the equivalent of the Welsh twl, and Pryce in his *Minerologia Cornubiensis* says—“Huel, a work, a mine: as Huel Staen, a tin mine. Huel Kalish: the hard work” thus implying that he regarded the word as meaning a mine, a work, or an undertaking. Now turning to the Welsh, we have as denoting a work, a duty, or a calling “Gorchwyl,” the second syllable of which reads probably with precisely the same sound as that of huel in ancient times, and as nothing is more natural than that an initial syllable should be lost in a decaying dialect, while preserved in a parent language possessing a fixed grammar and an extensive literature I think we may safely conclude that huel is a remaining Cornish relic of gorchwyl. This view being correct, Huel Staen and Huel Kalish were once Gorchwyl Ystaen, and Gorchwyl Kaled, phrases which although not in modern colloquial use, would be intelligible to any Welshman of the present day.

ANGLESEY MINER.

WHLCH CREOLAN SILVER-LEAD MINE.

SIR.—It is a singular fact that many thousands of pounds are spent annually in developing mines of an immitigous character, and that others of excellent prospects are taken in hand by people who do far more injury to them than otherwise in having the properties worked by companies with insufficient capital, and in direct opposition to the opinions of men of practical experience. Hence it is unfortunate that the above mine, with all its evidences of great value, which was adequately substantiated by the late Mr. George Henwood, M.E., a short time before his decease, should add another item detrimental to legitimate mining. This mine with its productive veins and splendid machinery would, with a further expenditure of a thousand or two, have proved a thorough success, inasmuch as Capt. Burn positively stated that he could return monthly at least 12 tons of lead from a level 50 fms. in length, and only 20 fms. from surface, and as soon as the deep level was brought up under the ore-bearing ground this amount would be increased. But before this could be accomplished the mine suspended operations. If the opinions of such an eminent engineer as Mr. Henwood and others were of any consideration to the shareholders, all grievances, if any, should at once be resolved with a determination to form a syndicate among themselves for the purpose of ore-purchasing, and an amalgamation with the phosphate mine carried out upon equitable terms. Then form a company to work the two properties on a sound basis. A little trouble with determination would absolutely result in success; but, perhaps, the situation is of a different aspect, and that the following quotation will apply, “I'm a gentleman, but I am short of the tools.” Nevertheless, it would be the only means of recouping the outlay which has already been made. When it is considered that nearly all of our dividend mines have taken many years and thousands of pounds before success was attained, it is curious to see those who were connected with this great property so tame and un-concerned, knowing as they do that everything required for the success of the mine is already on the spot, and that it will surely be sold at an astonishing low price.

Castle Buildings, Llanrhaidr, Sept. 8.

#### MINING IN CARDIGANSHIRE.

SIR.—Cardiganshire, which is at present suffering so severely from the depression in the lead market, is one of the most ancient mining districts in the kingdom. Whether the Romans ever did mine here, as is often confidently asserted or not, or whether Sir Hugh Myddleton derived from its hills the means of making the London New River, there can be no question as to its mines having been within a comparatively recent period the means of “making” more than one county family, as well as of adding considerably to the fortunes of several others; and it can be proved beyond a doubt that, within the last 30 or 40 years, the lead mines of this county have produced in actual dividends to public companies many hundreds of thousands of pounds, several of the mines having paid dividends regularly without a single gap for over 20 years. After all, mining in this county may be considered to be only in its infancy. The mines are generally very shallow, whereas the lead-bearing formation of the district is known to be of immense depth, and large areas, containing masterly lodes embedded in formations favourable to the production of minerals, are almost unexplored.

It is only comparatively lately that appliances for deep mining have become generally adopted in this county. Most of the mines until within the last 50 years were no deeper than they could be drained by a day level, and it was only in a very few instances, and that where the lodes were found exceptionally rich, that any attempt was made to penetrate below that level by means of the hand-pump, which primitive mode of mining was in a few instances applied to the depth of two lifts or stages. Thus, long after Watt and his brave lieutenant Murdoch had against all difficulties and the strong prejudices of Cornish captains successfully applied the steam-engine to the services of deep mining in Cornwall, the water-power of Cardiganshire so plentifully and conveniently distributed through its steep gradient valleys was allowed to escape unutilised, whilst many

a rich deposit of ore had to be abandoned only a few fathoms under water for want of the energy or the intelligence to erect a water-wheel and its necessary connections.

It is scarcely 50 years since the first water-wheel of any size was first applied to mining purposes in this country, and the first water-wheel of 40 ft. diameter was a great wonder to the natives, and the object of many a distant pilgrimage to view it at work. Steam-power, it should be remembered, has never to this day been applied to mining purposes in this country, except in a very few instances where water-power is not obtainable in sufficient quantities.

At the present day, however, there is no part of the kingdom perhaps so abundantly supplied with water-wheels as this. Wheels of all sizes, from 60 ft. diameter downwards, may (or might, many being just now at a standstill) be seen busily at work in all directions, many of them being conspicuous objects in the landscapes from their high positions on the hills. With the introduction of water-power for pumping purposes, the primitive mode of ore-dressing, until then in vogue, by means of bucking hammers and hand sieves, which were generally plied by the miners' wives and daughters in a hut outside the day level, while he himself and his lads were winning the ores from the lodes inside, had to give way to more modern and powerful means of ore-dressing, capable of dealing with larger quantities. This was done by the introduction of the ordinary mineral crusher, with a pair of rolls, varying in size up to 30 in. diameter, and the hand-jigger and the round baffle.

With this only one degree less primitive and imperfect mode of dealing with metalliferous ores the whole county seems to have rested perfectly content until lately, when Mr. George Green, at a great expense, and in the face of no small amount of prejudice, introduced his now well-known system of self-acting dressing machinery.

At present Cardiganshire, thanks to the efforts of Mr. Green, is perhaps better supplied with improved dressing machinery than any other mining district in the kingdom, according to its size and number of mines, and with your permission the improvements comprised in Mr. Green's system of metalliferous ore dressing shall be the subject of another letter.

JNO. DAVIS.

Aberystwith, Sept. 12.

#### CARNARVON COPPER MINE.

SIR.—This mine appears to be one of the number of the neglected ones the cause for which cannot be shown on any justifiable principle; for whilst it is true that a great deal of money has been spent, it is also true that the operations which involved the expenditure have not been barren of results which ought to induce shareholders to carry out their original purpose. Looking at the past history of the mine, and its close proximity to the oldest and richest copper mine ever known in the country, there can be scarcely a shadow of doubt as to its yet becoming as famous as ever for the production of copper, and I am quite sure that if the shareholders knew the value of the property they have in their hands they would not allow it to pass from them without realising a good sum of money for it. Many thousands of pounds have been spent in sinking the new shaft and in making a communication between the both parts of the mine at the 90 fathom level which has well opened the mine both with regard to ventilation and raising the water and stuff, and it simply remains now to drive a few short cross-cuts to reach the bunches of ore. The mine has been now sunk 90 fathoms deep and a long level driven at the bottom to communicate the both parts of the mine with a view of draining and opening a great section of the lode which remains still whole to surface, as well as finding the rich bunches of ore that were lost by the former workers; and just as we have about reached that point it would appear as though a great many have got "weary in well doing." I do not think that there are many copper mines to be found in this country that can show much better prospects than this. At the 20 there is a lode worth 2 tons of copper ore to the fathom. At the 70 there is a lode of about the same value in whole ground, and some years ago we discovered a bunch of ore from which we raised 70 tons, but could not work it in the roof for want of ventilation, and could not sink on it because of the quickness of the water. If we could now drive a cross-cut at the 90 to intersect this it would drain off the water, and we could sink and rise and get a communication which would give facilities for working the ore at the 70, which is now locked up for want of them.

The value of the ore should not be lost sight of. All the ores sold by the present company, taking them together, will average from 11 to 12 per cent, which at the present market price is worth 7s. per ton. In June of last year we realised an average price of 8s. 10s. 5d., when Chili bars were not very much higher than they are now, and it is very probable that copper will go up again to that price. Then with regard to the expenses of working, the mine may be looked upon almost as an adit mine, as there is water-power for everything. The cost of keeping the mine clear of water, including wages and consumption of materials, does not exceed 10s. per month; and so, taking everything into consideration, for those who want to go into a prospective mine I do not know where they can do better.—Llanrwst, Sept. 18.

JOHN ROBERTS, M.E.

#### ADVANTAGE OF PRESENT INVESTMENTS.

SIR.—It is an old and hackneyed couplet, but one which never had more force than at the present moment that:—"When shares are high the public buy, but when they are low they let them go." During a long experience of mines and the mining market it would be difficult to recall a time when prices were as depressed as they are at present, and a careful enquiry into the position and prospects of a large number of our mines, coupled with the extremely low price of the shares, would convince any reasonable investor there never was a better time than now for picking up cheap shares in promising mines. Many investors may say it is difficult to get sound information, but despite a recent effusion to the contrary there are still many honest dealers and brokers who would afford the required information.—London Sept. 1.

H.

SHOTTS IRON COMPANY.—The annual meeting of shareholders was held at the offices of the company, Leith, on Wednesday, Mr. W. Lindsay, Chairman of the company, presiding. The balance at the credit of profit and loss account at June 30 was 52s. odd. That was exclusive of 12,338*l.* brought forward from the previous year's account, and which the directors proposed should be written off for depreciation. The directors certainly regretted that the company was not yet in position to pay a dividend on the ordinary stock. They therefore proposed to carry the 52s. odd to next account, less 27s. 10s. for a dividend on the preference shares. Looking to the favourable features in the company's business, the directors were not without hope that for the future they would be able to pay a dividend on the ordinary shares. The motion was seconded by Mr. A. Leslie, Newcastle, and unanimously agreed to. Sir William Miller, of Manderston, who retired by rotation, was re-elected a director; Mr. Carter was re-elected auditor, and a vote of thanks to the chairman closed the proceedings.

FORTHCOMING BOOKS.—Messrs. Cassell and Co.'s list of new and forthcoming books for the approaching publishing season includes many upon subjects in which the readers of the *Mining Journal* are interested. Among these are:—*Energy in Nature*, by Mr. William Lant Carpenter, B.Sc., Lecturer for the Gilchrist Educational Trust; *Vignettes from Invisible Life*, by Mr. J. Badoock; *History of the Year* (the edition for 1883); the fifth divisional volume of the *Encyclopedic Dictionary*; a supplementary volume of the *Dictionary of Mechanics*; Cassell's *Concise Cyclopaedia*, a compact volume, containing biographical, historical, geographical, and scientific information; the completion of *Our Own Country*, an illustrated geographical and historical description of the chief places of interest in Great Britain and Ireland; and the completion of a new edition of Cassell's *Popular Educator*. The following volumes of the series styled *Manuals for Students of Medicine*—*Surgical Pathology*, by Mr. A. J. Pepper, F.R.C.S.; *Surgical Applied Anatomy*, by Mr. F. Treves, F.R.C.S.; *Clinical Chemistry*, by Dr. C. H. Ralfe; and *Human Physiology*, by Mr. Henry Power, F.R.C.S.—are nearly ready. Of *Manuals of Techno-*

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founding mine; he hoped he should live to see it in such a prosperous condition. He thought that great credit was due to Mr. Murray for the pluck, perseverance, and general good management he had shown in conducting the affairs of the mine. There were few men who would have persevered as Mr. Murray had done, and it must be a very satisfactory thing for him to see the engine started amid such indications of success. (Applause). This concluded the toast list.

The engine and engine-house, which have been given to the shareholders by Mr. J. Murray, the largest shareholder and the purser, whose belief in the mine has always been a most sanguine one, have been erected on the side of the hill facing the village of Whitchurch, and within 200 fms. of what may now be termed the old mine. The engine-house is most substantially built, has three storeys, and is 48 ft. in height. The engine is a 24-in. cylinder machine, with a 10 ft. stroke, and of about 80-horse power. Connected with the engine-house on the eastern side are two immense fly-wheels, each weighing 13 tons, and from these will run iron rods, one set of which will balance the pumps, and the other the new battery of stamps which it is proposed to add. It is confidently anticipated that within the next three weeks, if all goes well with the engine, the water will have been forced out of the mine to the 30. To the western side of the house stands the boiler, which has been encased in durable brick walls, and the flues leading from it to the stack have been constructed of the same material. The boiler weighs 12 tons, is 31 ft. long, and is capable of standing a pressure of 90 lbs. to the inch, although the aggregate working pressure will not exceed 40 lbs. to the inch. As soon as the water has been got low enough a battery of 16 heads of stamps will be erected to the south side of the new engine-house, and these, as before stated, will derive their motive power from one of the fly-wheels. Provision has been made at the western side of the engine, adjoining the boiler, for the reception of another engine which will soon be brought on the premises, and which will be used for hauling the stuff from the shaft to the stamps. This engine, the purchase of which has already been effected is an horizontal one of 25-horse power. By another arrangement which will be made as soon as the new head of stamps is erected a great saving of labour will be effected. It is intended to construct a spacious earthenware culvert from the higher mine to the lower mine, through which the stuff after it has been crushed at the stamps will be washed to the dressing floors at the latter place, and be treated in the usual way prior to going to market. The pumping gear at the shaft consists of a 9-in. drawing-lift and an 8-in. plunger, and after the water has been forced to surface it will be utilised for condensing and stamping. Without for one moment considering the contemplated improvements which have been briefly adverted to in the foregoing account, at least 200000. worth of machinery has been placed in the mine, so that it is quite evident Mr. Murray and his brother shareholders mean business. Should the lodes hold out good, as they are expected to do, and of which happy prospect there is every indication, with the present machinery at least from 10 to 15 tons of tin can be turned out per month. The engine and boiler have been supplied and erected by Mr. Bennetts, mining engineer, of Roskear Fus Works, Camborne, who has given every satisfaction in the performance of his contract. The engine-house was built by Mr. W. Dodge, builder, of Calstock,

#### LADIES' DRESS ASSOCIATION.

The ordinary general meeting of shareholders was held at Willis's Rooms on Tuesday.—Mr. LUCK in the chair.

The SECRETARY read the notice calling the meeting, and the minutes of former meetings. The minutes were challenged in several respects by Mr. DENNIS, but were ultimately agreed to as correct.

The CHAIRMAN then moved that the report and accounts be taken as read; and this having been carried, he called on Mr. PULBROOK to move their adoption, as he had prepared himself to do so.

Mr. PULBROOK, in proposing the adoption of the report and accounts, desired to refer to the state of the company when the present directors took office. According to the late general manager's reports the receipts were continually falling off. As soon as the present board took office the late manager resigned, and the board looked out for another manager, and they selected one recommended by Mr. Luck. They then selected two buyers. The result was that the returns, which in the previous month showed a falling off of 200000., became equal, and now those returns had increased by 50000.; this was a proof of the success of the policy adopted. Everything depended on the judgment of the buyers. The board had tried to give to the buyers an interest in the future of the business. When the present board took possession there was no proper organisation; everything was allowed to take its chance. He only became a director when the concern was going down in order to watch affairs and see whether he could stop the downward tendency. The success of the company depended on the shareholders themselves becoming customers. At the commencement of the company three-fourths of the shareholders were customers; but during the last two years only 10 per cent. were customers. The inference from that was that the company had been badly managed until now—that they did not have the goods nor the prices they ought to have had. When they came to look at the accounts they discovered that the old stock had been valued at its original cost price, whereas it was in what was technically called an "unhealthy" condition. Another point was referred to in a note placed against the capital account as follows:—"Some discrepancies having been discovered in the capital account, these amounts can only be given on the basis of last year's balance-sheet, pending a complete examination of the share accounts." In justification of the board in presenting the share account, he would explain that certain irregularities had taken place in the book-keeping, so that it was difficult to say whether certain shares had been paid for, or whether certain calls had been paid. The purchases during 12 months were put down at 47,161. 7s. 8d., to which a note was appended:—"This item, made out on the basis of last year's balance-sheet, would amount to 52,566. 17s. 7d. by reason of the addition of salaries and wages, house-keeping, paper and string, travelling expenses, and price list."

Major COTTON said the accounts now being referred to differed from the draft sanctioned at the board. He asked that Mr. Pulbrook should not go into the accounts at all, as he intended to object to them. He protested against the accounts having been sent out in his name when he had not seen them and had not consented to them.

The CHAIRMAN: We want to hear both sides. Mr. Pulbrook, will you proceed?

Mr. PULBROOK said the board desired to change the system of charging the "salaries" and other items named in the sum put down as "purchases"; and the shape of the present accounts showed the wisdom of that policy.

The CHAIRMAN, in seconding the adoption of the report, said he did not desire to utter a single word of blame against the former directors, as it was almost impossible to go into a strange business without making errors in management. The discrepancies in the balance-sheet had simply arisen from the fact that the stock was badly bought, and that it was taken at its cost price instead of at its value—a fact that the directors had not been made aware of. When the present board took possession they found, as an instance, that gloves supposed to be worth 2s. and 3s. were not worth 6d. The previous season's bonnets, bought at 4 or 5 guineas, were not worth the money, because ladies would not buy last season's bonnets. The board marked the old goods at a great reduction, and had a sale, which was very successful in disposing of the old stock. At the present time the stock represented its full value, and they were now perfectly satisfied with the staff from the manager to the boy who hardened the watering pot. The result was that the trade had come back to them. There was, however, no dividend; but as he understood the company was formed, not so much to make a profit, as to supply the shareholders with goods at a cheaper rate than they could be purchased elsewhere. But if the company were carried on as was being done now the profit and loss account would soon show a different aspect.

Major COTTON moved an amendment on the ground that the accounts had been altered in regard to various sums which he enumerated since they were presented and passed in draft at the board meeting which he attended. He did not know when or by whom they had been so altered. He further complained that the meeting had been held earlier than usual when nobody was in town. He also alleged that though the board had decided not to ask for proxies, that Mr. Pulbrook had obtained some in his own behalf. As to the accounts, one item—viz., balance to profit and loss account, which stood at 12,222. 19s. 6d. in the draft accounts, now stood at 12,782. 13s. 6d. He did not dispute that the items in the present balance were correct as passed by the auditor; but he objected to accounts going out bearing his authorisation, when they had not really been submitted to him.

Mr. PULBROOK explained that a letter was sent to Major Cotton stating that the draft accounts were not quite in the shape that would be submitted to the shareholders.

Major COTTON said the letter did not refer to the draft of the accounts now under discussion, but to a list sent him some days previously. He moved that the meeting be adjourned till Wednesday, Oct. 17.

A SHAREHOLDER objected to the amendment on the ground that the whole of the proceedings of the meeting were irregular, inasmuch as the accounts presented were not the accounts of the whole board.

A SHAREHOLDER wished to know who was responsible for placing before the auditor accounts not passed by the board.—The CHAIRMAN: That I am not in a position to say.

A long discussion then followed, which partook for the most part of a personal character, and in the end the CHAIRMAN said—I am advised by the solicitor to the company that this meeting is informal, and I, therefore, dissolve it.

Mr. PULBROOK said he should continue the meeting, and take the chair. This he did, and while the meeting was dispersing he put the motion for the adoption of the report and accounts, and declared it to be carried.

**MOUNT BISCHOFF TIN MINING COMPANY.**—At the meeting of shareholders at Launceston (Tasmania) on July 31, the directors submitted the mining manager's report for the past half-year, and the reports of the smelting manager and assayer, together with the audited balance-sheet to date and the accompanying statement of accounts, which they trust will be found clear and satisfactory. The accounts submitted at the last general meeting showed a balance to the credit of the profit and loss account of 43,370. 11s. 6d., and a further sum of 44,183. 7s. 3d., being the earnings of the last six months, has since been transferred to the credit of the account, making with interest 149. 18s. 4d., a total credit of 57,553. 17s. 1d. Of this sum 42,000. has been distributed in dividends, and 1575. has been paid for dividend tax, leaving a credit balance of 44,183. 17s. 1d. The directors trust that the continuing prosperity and sound financial position of the company will be gratifying to the shareholders. The smelting manager reports that the total quantity of ore smelted is 1339 tons 6 cwt. 3 qrs. 23 lbs.; producing 979 tons 14 cwt. 2 qrs. 31 lbs. tin. Of this 1164 tons 8 cwt. 1 qrs. 19 lbs. of ore, producing 788 tons 14 cwt. 3 qrs. 9 lbs. refined tin was smelted on account of the Mount Bischoff Company, and the remainder, 274 tons 18 cwt. 2 qrs. 4 lbs. ore, yielding 190 tons 19 cwt. 3 qrs. 2 lbs. tin, on account of the public. The average of the assay of ore received from the company's mine is lower than that of the previous half year, which may be accounted for by the extreme dryness experienced throughout the season, and the consequent reduction in the output of sluiced or stream ore, which is always of superior quality. The mean assay of tin shipped will show that the high quality has been maintained, notwithstanding the very refractory nature of some of the ore we have had to deal with.

The works generally are in excellent order, the furnaces being in good repair, and the machinery working in a most satisfactory way.

#### PROVINCIAL STOCK AND SHARE MARKETS.

**CORNISH MINE SHARE MARKET.**—Messrs. ABBOTT and WICKETT, stock and share broker, Redruth (Sept. 13), write:—A moderate business has been done this week in Dolcoath from 66½ to 68½, closing 67. East Pools about 40½ ex dividend of 18s. Murray had done, and it must be a very satisfactory thing for him to see the engine started amid such indications of success. (Applause). This concluded the toast list.

The engine and engine-house, which have been given to the shareholders by Mr. J. Murray, the largest shareholder and the purser, whose belief in the mine has always been a most sanguine one, have been erected on the side of the hill facing the village of Whitchurch, and within 200 fms. of what may now be termed the old mine. The engine-house is most substantially built, has three storeys, and is 48 ft. in height. The engine is a 24-in. cylinder machine, with a 10 ft. stroke, and of about 80-horse power. Connected with the engine-house on the eastern side are two immense fly-wheels, each weighing 13 tons, and from these will run iron rods, one set of which will balance the pumps, and the other the new battery of stamps which it is proposed to add. It is confidently anticipated that within the next three weeks, if all goes well with the engine, the water will have been forced out of the mine to the 30. To the western side of the house stands the boiler, which has been encased in durable brick walls, and the flues leading from it to the stack have been constructed of the same material. The boiler weighs 12 tons, is 31 ft. long, and is capable of standing a pressure of 90 lbs. to the inch, although the aggregate working pressure will not exceed 40 lbs. to the inch. As soon as the water has been got low enough a battery of 16 heads of stamps will be erected to the south side of the new engine-house, and these, as before stated, will derive their motive power from one of the fly-wheels. Provision has been made at the western side of the engine, adjoining the boiler, for the reception of another engine which will soon be brought on the premises, and which will be used for hauling the stuff from the shaft to the stamps. This engine, the purchase of which has already been effected is an horizontal one of 25-horse power. By another arrangement which will be made as soon as the new head of stamps is erected a great saving of labour will be effected. It is intended to construct a spacious earthenware culvert from the higher mine to the lower mine, through which the stuff after it has been crushed at the stamps will be washed to the dressing floors at the latter place, and be treated in the usual way prior to going to market. The pumping gear at the shaft consists of a 9-in. drawing-lift and an 8-in. plunger, and after the water has been forced to surface it will be utilised for condensing and stamping. Without for one moment considering the contemplated improvements which have been briefly adverted to in the foregoing account, at least 200000. worth of machinery has been placed in the mine, so that it is quite evident Mr. Murray and his brother shareholders mean business. Should the lodes hold out good, as they are expected to do, and of which happy prospect there is every indication, with the present machinery at least from 10 to 15 tons of tin can be turned out per month. The engine and boiler have been supplied and erected by Mr. Bennetts, mining engineer, of Roskear Fus Works, Camborne, who has given every satisfaction in the performance of his contract. The engine-house was built by Mr. W. Dodge, builder, of Calstock,

—Mr. M. W. BAWDEN, Liskeard (Sept. 13), writes:—The mining market presents a general feature of quietude. The steady demand for tin and continued low prices of stock with all their prospective merits fail to induce buyers and quotations nominally are lower. At Pende-an-drea United Mines a good improvement is reported at the 100, lode worth 25½ per fathom, and improving. Most of the shares have been neglected. Closing quotations herewith:—Blue Hills, ½ to ½; Camborne Vean, ½ to ½; Carn Brea, 5½ to 5½; Cook's Kitchen, 24 to 25; Dolcoath, 67 to 67½; East Pool, 40 to 41; Killifret, 1½ to 1½; New Cook's Kitchen, 2 to 2½; New Kitty, 1½ to 2; New Trumpet, 1 to 1½; Pende-an-drea, 1 to 1½; South Condurrow, 8½ to 8½; South Crofty, 7½ to 8; South Wheal Frances, 9 to 9½; Tincroft, 6½ to 7; West Bassett, 4½ to 5; West Kitty, 13½ to 13½; West Pever, 3½ to 3½; West Frances, 2 to 2½; West Tolgus, 10 to 12; West Seton, 12 to 14; Wheal Agar, 14 to 14½; Wheal Bassett, 4 to 4½; Wheal Grenville, 6 to 6½; Wheal Kitty (St. Agnes), 1 to 1½; Wheal Pever, 3 to 3½; Wheal Uny, 2½ to 3.

—Mr. JOHN CARTER, mine shareholder, Camborne (Sept. 13), writes:—The share market has been dull during the week. Dolcoath have fluctuated between 66½ and 68½, closing at 67. East Pools rather lower since the dividend of 18s. per share was declared. Tincroft is proved to 7½ buyers on the settlement of the lease question but have declined to 7 sellers. Subjoined are the closing quotations:—Carn Brea, 5½ to 5½; Cook's Kitchen, 24 to 26; Dolcoath, 67 to 67½; East Pool, 40 to 41½; Killifret, 3½ to 3½; Mellanear, 3 to 3½; New Cook's Kitchen, 2½ to 3; New Kitty, 1½ to 2½; Pende-an-drea, 5½ to 5½; South Condurrow, 8½ to 8½; South Crofty, 7 to 7½; South Frances, 8½ to 9; Tincroft, 7 to 7½; West Bassett, 4½ to 5; West Frances, 1½ to 2; West Kitty, 13½ to 14; West Pever, 3½ to 3½; West Police, 3½ to 4; West Seton, 9 to 10; Wheal Agar, 14 to 14½; Wheal Bassett, 5 to 5½; Wheal Grenville, 6½ to 6½; Wheal Kitty, 1½ to 1½; Wheal Pever, 3 to 3½; Wheal Uny, 2½ to 3.

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## WATSON BROTHERS' MINING CIRCULAR.

WATSON BROTHERS,  
MINEOWNERS STOCK AND SHARE DEALERS, &c  
1 ST MICHAEL'S ALLEY, CORNHILL, LONDON

In the year 1842, when mining was almost unknown to the general public, attention was first called to its advantages, when properly conducted, in the "Compendium of British Mining," commenced in 1837, and published in 1842, by Mr. WATSON, F.G.S., author of "Gleanings among Mines and Miners," "Records of Ancient Mining," "Cornish Notes" (first series, 1862), "Cornish Notes" (second series, 1863), "The Progress of Mining," with Statistics of the Mining Interest, published annually in the *Mining Journal* for 21 years, &c., &c. In the Compendium, published in 1842, Mr. WATSON was the first to recommend the system of a "division of small risks in several mines, ensuring the success in the aggregate," and Messrs. WATSON BROTHERS have always a selected list on hand. Perhaps, at no former period in the annals of mining has there been more peculiar need of honest and experienced advice in regard to mines and shareholding than there is at present; and from the lengthened experience of Messrs. WATSON BROTHERS they are emboldened to offer, thus publicly, their best services and advice to all connected with mines and mining.

Messrs. WATSON BROTHERS are daily asked their opinion of particular mines, as well as to recommend mines to invest or speculate in, and they give their advice and recommend mines to the best of their judgment and ability, founded on the best practical advice they can obtain from the mining districts, but they will not be held responsible, nor subject to blame, if results do not always equal the expectations they may have held out in a property so fluctuating as mining.

The great extension of mining business, the difficulty so often complained of by country shareholders in getting accurate and disinterested information as to the state of Cornish and Foreign Mines, and of the financial and real position of mining companies generally, have induced Messrs. WATSON BROTHERS to make their Circular now published in the *Mining Journal* more extensively known, and to state—

That they issue daily to clients and others who apply for it a Price List (as applied to most of the London and country papers), giving the closing prices of mining shares up to Four o'clock.

They also buy and sell shares for immediate cash, for the usual fortnightly settlement in all mines dealt in on the Mining and Stock Exchanges, at the close market prices of the day, free of all charge for commission. They deal also, on the same terms, in the Public Funds, Railways, Telegraphs, and all other securities dealt in on the Stock Exchange.

Having agents in all the mining districts, they are constantly getting mines inspected for their own guidance, and will also obtain special reports of any particular mine for their clients, for the inspecting agent's fee of £2 2s.

Messrs. WATSON BROTHERS take this opportunity of stating that on July 1 they took into partnership Mr. H. J. DEAN, who has been for a number of years associated with the firm, and Mr. W. H. H. WATSON, who has had some years of experience of practical mining and engineering in Cornwall, and is the son of the senior partner. The firm will still be called that of "Watson Brothers."

The number of weekly communications received from almost every part of the world in regard to remarks in this Circular indicate so plainly how much they are read (and, we trust, appreciated) that they will be continued by the same writer.

Indeed, while new blood is introduced to attend to the more laborious and mechanical details of the business, the old will have more time to devote to their different departments.

It will be seen from a report of Langford meeting in another column that the mine will be resuscitated under a Cost-book Company, to be carried on upon the same principle, and under the same financial arrangements as Wheal Crebor—costs and bills to be paid up monthly, and no liabilities whatever allowed to accrue. A committee of five to be appointed, qualification not less than 200 shares each. It is considered that the 3000/- raised on 12,000 shares at 5s, each will pay all liabilities of the old company and provide funds to carry on the mine for eight or ten months. After that only small calls will be made.

No mine was ever introduced under stronger or more favourable reports of practical agents than Langford; to drain and clear the levels 11,000/- have been spent, and as under the Limited Company it seemed impossible to raise the further sum required to attain the promised results, the present plan has been adopted. The Limited Company was in 25,000 shares—the new one in 12,000, so that each shareholder will be entitled to half the number of shares (at 5s. each) which he held in the old. The plan was favourably adopted at the meeting, those who had applied for preference shares transferring their applications to the new company, and doubtless nearly all will be taken up by old shareholders. In case all are not so taken up by old holders we shall be happy to reserve them for those who may apply to us, according to the dates of their applications.

A correspondence is going on in the *Mining Journal* upon the origin and significance of the words "huel" and "wheal." The latter, in fact, is a corruption of the former. Huel was the ancient Cornish word for mine. Thus "Huel Plenty" would mean the "Plenty Mine," as Wheal Plenty now means the "Plenty Mine;" but to say "Wheal Plenty Mine" is tautology.

Polrose has just been inspected by Capt. Harris, who was for over 20 years an agent at the neighbouring mine of Great Wheal Vor, the largest and for years the richest tin mine in the county. He states the lode at Polrose is 3 ft. wide, better defined than he ever saw it before. In the south end of shaft there is a large dropper, about perpendicular, that will fall into the lode in another 10 ft. or 12 ft. sinking. He broke portions of the lode and branches and assayed them, and a fair sample produced 1 qr. 7 lbs. of tin to the ton of stuff. He concludes his report by saying—"I have had a great deal of experience in the neighbourhood, being an agent in the adjoining mine, Great Wheal Vor, for over 20 years, and I am pleased to say I think the change in the bottom of Polrose a very favourable one, and about the depth that the Metal part of the Great Wheal Vor commenced to be rich, and I shall be greatly disappointed if Polrose does not continue to improve from now."

Two hundred and one shares in Dolcoath have been sold by auction in Cornwall this week for 13,434/- 17s. 6d., or an average of 66/- 18s. 6d. per share. All the shares were purchased by parties in the neighbourhood of the mine. Dolcoath has had a great deal to contend against of late, and this money has been raised towards the payment of 25,000/- premium demanded for a new lease; but there seems no difficulty in raising money under the Cost-book System. Another mine on the Cost-book principle, East Pool, has this week paid a dividend of 18s. per share out of a profit of 5826/- 13s. made in the quarter.

At Great West Chiverton the agent is daily expecting a great improvement.

Foreign stocks are all firmer, Egyptians at an improvement of 1 per cent. for the week. The reduction in the Bank rate has tended to strengthen prices. Mexican Railways have again fluctuated considerably, the Ordinary stock has been down to 80, a fall of over 30 per cent. in about a fortnight, but rose again to 93 on the traffic return showing only 5000/- decrease, when 13,000/- had been expected. The Grand Trunk Railway dividends have been announced, the Second Preference in full, but nothing on the Third. This was generally anticipated, but the Third Preference fell over 4 per cent. owing to pressure of sales. English Railways are mostly dull, the traffic returns not being very satisfactory. Consols are firm.

From Mr. JOHN B. REYNOLDS:—The readers of the *Mining Journal* will not have been at a loss to gauge the present state of the markets, owing to the very full reports which have appeared in the daily papers. The fall in some securities has been so serious as necessarily to embarrass many who are affected by the drop. Again and again is the folly of operators buying what they are unable to pay for illustrated. It is all very well to buy in anticipation of money which you know must come; but to enter into a contract for stocks of any description, which the buyer knows he must sell before the transaction can be settled for him, is ruinous business in the long run. Should any untoward event happen at the present moment a panic of a somewhat serious kind will be upon us. That is evident from the heavy fall in one or two prominent Stock Exchange securities. The holders of good mine shares may, however, well be contented, their position being just now a most enviable one. Happily there is little or no mining stock in the hands of many lenders, and the state of the mining market, although quiet, is most assuredly sound. We cannot overlook the steady price which has ruled for tin for many months past. The fluctuations have been insignificant, and when we consider the general tone of trade, it must be admitted that the present price is satisfactory. But what will be the state of matters when the advances another 10/- or 20/- per ton? It will be more transparent than ever how these people are who at this excellent opportunity refrain from buying first-class mining stock at present depressed prices.

It is all very well for people to decry mining securities, but the reason why so many lose is because they will not act on the dictates of common sense; thus it is obvious that the public are not just at this time buyers. What can be said of their inactivity is precisely what has been said in the past over and over again after the tide has suddenly turned. The public will most probably be rushing after mining securities before we are much older with an eagerness

akin to insanity when prices are 400 or 500 per cent. above their present level. We are aware of the responsibility which attaches to a gentleman who attempts to guide the public in matters of finance, and with this fact in view we are obliged to caution the readers of your valuable *Journal* lest even now they should make an unwise selection in their investments in mines. Nothing is more correct than the fact that very many mining shares are absolutely dear at a gift; but the reasons are not far to seek. They can be found in companies' official publications, such as balance-sheets and reports extending over many years; whilst on the other hand, it is equally evident that the proofs of the bona fide character of other companies are not further to seek, for they also can be found in the balance-sheets and public reports extending over a long period. On the whole, we are not aware of any time when it was more apparent than it is now that this is a most favourable time for the judicious selection of investments.

## Mining Correspondence.

## BRITISH MINES.

BEDFORD UNITED.—W. Trezise, Sept. 11: There is no change in either of the ends on the north lode, and the drivages are being continued by the side of the lode. The tribute pitches throughout the mine continue to yield a fair quantity of ore, and the men are earning good wages. The shaftmen on Bridge lode are busily engaged in fixing bearers for clatner, and we shall soon begin to fix the lift in its place. The lode in the 62 east and west is 3 ft. wide, strong and masterly in appearance, composed of capel, mundic, and ore; a very promising lode. The lode in the 42 east is 3 ft. wide, and very kindly for an improvement. The several stoves at the 30 and 42 maintain their value. The drivage in the 31 east is by the side of the lode. The lode in the winze sinking below the 30 is looking promising.

BLUE HILLS.—S. Bennetts, R. Harris, H. Gripe Sept. 12: The 66 east end on the Pink lode is worth 8/- per fathom. The Baldwin lode in the 54 west end is showing signs of improvement, is producing some good tinstuff, and worth from 5/- to 6/- per fathom. The 42 east end is also looking somewhat better, and is worth 4/- per fathom. The lode in the 20 east end is 1 1/2 to 2 ft. wide, composed of low quality tinstuff.

CARLISLE UNITED.—W. H. Borlase, Sept. 13: The shaft is almost deep enough to start the 35 fm. level; the lode is just the same as when reported on last week, producing very good stones of lead. I think in a week from this date we shall be driving the 35 fm. level east of shaft. At the 24 fm. level we went over very good lead ground, and I hope we shall find the lode improved in this point.

CARLISLE UNITED.—W. C. Vivian, Sept. 13: In the 95, east of sump, we are still cutting through the south lode, which is principally chlorite, with seams of granite passing through it, and carrying some rich tinstone. In the rise in the back of the 95, west of sump, we continue to break copper ore of excellent quality, of which the lode yields about 2 1/2 tons per fathom. In the 40, west of engine-shaft cross-cut, we have cut through the north lode, and find it to be over 12 ft. wide. We are now driving west in it, and carrying a width of 4 ft., which yields good tinstone, making it worth about 10/- per fathom. The other part of the lode will be opened into after we have driven some distance further west. There seems to be a good lode going both up and down from the level at this point.

CROOK BURN.—Jacob Craig, Sept. 7: We continue to have large boulders of limestone at the bottom of the level, which are pretty horizontal, and I think we are near the top of Tynebottom limestone.

CWM DWYFOR AND BRYNARLAW.—J. Davies, Sept. 13: Brynarlaw Mine: We have to-day completed fixing the whim at Boundary shaft, and shall begin to draw up the stuff on Saturday. We shall then resume the driving of boundary cross-cut to reach the Brynarlaw lode.

D'ERESBY MOUNTAIN.—J. Roberts, W. Sandoe, Sept. 12: The stoves over

No. 6 which are now up as far as the roof of the No. 5 intermediate, have been gradually improving for some time, and they are now worth fully 3 tons to the fathom. It is now quite evident that this lead is going up in advance of anything we have seen in No. 5 level, and appears to be a separate thing altogether to that which we had in the rise from No. 6 to No. 5, but whether it is the same bunch as was worked at No. 4 in what is known by the "blind man's bunch" we cannot as yet be certain. Be this as it may, we have 20 fathoms or more of whole ground above us, and all whole ground going south, and, as we said last week in a special letter on this point, we can see nothing in the way of making this a grand success but the want of what is necessary to open up the ground in and about this place. When we have cleared the No. 4 and cleared up the old sump we shall be better able to judge as to what will be the best method or plan for opening this ground, whether by sinking a new shaft from surface to come down directly on it or otherwise. On the hanging side at No. 6 the lode is worth about a ton to the fathom; but we have not done anything here since the accident occurred.

DEVON FRIENDSHIP.—F. R. W. Dawe, W. Gill, Sept. 13: The 42, east of Bennett's engine-shaft, is not looking quite so well for arsenical mundic, but it has every appearance for a speedy improvement. The 42 end, west of the engine-shaft is looking well; the lode is 3 ft. 6 in. wide, and worth 10/- per fathom for arsenical mundic. The stoves in the back of the 30 are without any alteration since we reported to you a fortnight ago. The winze in the bottom of this level has slightly improved for arsenical mundic; now worth fully 11/- per fathom for this mineral. All our machinery at surface is working well.

—Telegraph: Some connection for stonebreaker will be delivered to-day. Shall have it working by the end of next week. Increase of returns will be

about 10 tons of arsenic per month.

DEVON GREAT CONSOLS.—Isaac Richards, Sept. 13: Wheal Josiah: In the Count-house shaft, sinking below the 144, the lode is 3 ft. wide, yielding a little copper and mundic ores. Wheal Emma: Inclined Shaft: In Glandfield's rise, in the back of the 137 east, the lode is 4 ft. wide, and worth 3 tons of copper and 3 tons of mundic per fathom. New Shaft: New South Lode: In the 205 east the lode is 3 ft. wide, of a promising character, and contains a little good quality copper ore and 1 ton of mundic per fathom. —Railway Shaft: In the 205 west, on the south part of the lode, the lode (3 ft. wide carried) yields stones of copper and mundic ore of good quality. In Southcombe's winze, in the bottom of the 190 west, on the south part of the lode, the lode is 3 ft. wide, composed of capel, quartz, and peach, with good stones of copper and mundic ores. In the 169 west, on the south part of the lode, the drivage is being carried by the side of the lode for speedily progress. —Watson's: In the engine-shaft, sinking below the 100, the lode (part carrying 2 ft. wide) is of a promising character, and yields small quantities of copper and mundic ores. In the 100, west of the engine-shaft, the lode is 4 ft. wide, yielding good stones of copper and mundic ores. In the 20, east of the western shaft, the lode is 2 ft. wide, composed principally of capel and quartz, with small quantities of capel and mundic ores. The other points of operation throughout the mine are without important alteration.

DEVON GREAT UNITED.—Isaac Richards, Sept. 13: In the 120, east of Wifflesford's shaft, the lode is 2 ft. wide and is improved, being now worth 1 ton copper ore per fathom. In the 120, west of Wifflesford's shaft, the lode is 2 ft. wide, and is yielding some good saving work of copper ore. At both these points of operation the indications are of a very promising character. The distance driven at this level during the past week is 1 fm. 2 ft. 6 in.

DRAKEWALLS UNITED.—M. Badwen, Sept. 3: The drivage of the mine is going on in a very satisfactory manner, and we expect on Saturday next to go into the 90. Mathew's shaft has been cleared to the 80, and next week we shall put in and fix the new skip-road from the deep adit to that point, and soon after we expect to derive some benefit from the workings below the deep adit, as up to this time all our returns have been from our shallow workings. The branches in the shallow adit, west of engine-shaft, are still yielding some good tinstuff, and we shall soon prove if the same branches go down to the 40, as we consider we are now getting into the cross-course to west of which we discovered said branches in the shallow adit. We sold on Monday last 11 tons 0 cwt. 1 qr. 20 lb. black tin at 53/- 17s. 6d. per ton. Saturday next being our settling day full report will be sent you next week.

EAST BLUE HILLS.—S. Bennetts, W. K. Mitchell, Sept. 12: The stoves in the back of the adit level are producing the usual quantities of tinstuff, and worth from 6/- to 7/- per fathom. The eastern shaft is being cleared and enlarged, and two rises are being put up towards it from the 30 and 40 fm. levels, respectively, so that it may be completed to the adit level in the course of some two or three months.

EAST DARREN.—Sept. 12: In the 92, driving west of caunter branch, the ground is composed of beds of grit, hard for opening. We have not, as anticipated, met with the lode, and shall now turn the end in a more northerly direction in search of it. The lode in the 80 end, west of stope, I am pleased to say, looks strong, and promising for laying open stoning ground. In the rise over the 80 on caunter branch the lode became soft and poor, and is suspended. We have suspended driving the 82 end west so as to reduce our cost, and shall prove this piece of ground by the stope over the 80 under. The lode in the stope over the 92, west on the south lode, is 4 ft. wide, yielding on an average 1 1/2 tons of lead per fathom. The lode in the stope over the 90 west on the south lode is 6 ft. wide, yielding 1 1/2 ton of lead per fathom. We have taken down the beam of the pumping-engine, so that all parts are now out of the house, and shall now commence with taking out the tubes of the boilers preparatory to cutting out the same in such lengths as will be required. The machinery is in excellent order. Drawing and dressing progressing steadily, with a full supply of water.

EAST WHEAL ROSE.—Capts. W. Skewis, D. Dodge, and R. Gill, Sept. 11: Penrose's engine-shaft is secured to the 62, and preparations are being made for fixing bearers to carry the lifts from the 60 to the 70, which will be sent down immediately the bearers are fixed. The 50 is cleared south so far as Innes' lode; at this point we find there are two other lodes to the west of the east lode. No. 2 lode has been driven and worked further than we have cleared. No. 3 is about 2 fms. west of No. 2 lode. The lode in this end on No. 3 lode is 2 ft. wide, worth 5 cwt. of lead per fathom. This lode will be cross-cut from No. 2 lode on the south side of Innes' lode in about a week from now. If then found equally good on the south side as it is now on the north side, and we think the prospects are in favour of its being better, we shall drive the 50 on this lode and discontinue clearing the level on No. 2 lode. It is important that this should be pressed forward as quickly as possible to reach the run of ore seen in the bottom of the 49. Foster's shaft is cleared 5 fms. below the 50, and will be down to the 60 in about a fortnight when the 50 will be cleared south as fast as possible. The 40 is now 20 fm. south of Roberts' shaft. The whole of this drivage is in ore ground and will set at tributes varying from 5/- to 7/- per ton. The lode in the end is worth from 8 to 10 cwt. per fathom. The ground is easy for driving and everything that can be desired for the production of lead, and we think the extension of this level will be continually getting into easier and more productive ground, and as we have now about 200 fms. to the south boundary entirely unexpected, the prospects of an early paying property are very great. About 10 fms. behind this end a lode has been commenced to drive west on Long's lode. This will intersect the Nos. 2 and 3 lodes seen in the 50 as before referred to within a month, so that we may quickly have important discoveries on these lodes also. A still more important object is the intersection of Middleton's lode by the extension of this same level on Long's lode, which will be done without delay. Roberts' shaft should be sunk to the 50 with the greatest possible speed seeing there is a good lode of lead now in the bottom of it, and every prospect of its continuing downwards and having regard to the ore now seen in the 50, and the prospects of a still further increase in value, the sinking of this shaft cannot be pressed forward with too great a speed, it being required to facilitate the quick and profitable working of this part of the mine, and the lower levels

will be drained and laid bare for working from the engine-shaft quicker than this (Roberts') shaft can be sunk, whatever strength may be thrown into it. On no occasion have we seen the prospects so satisfactory and encouraging as they are to-day. Baynard's shaft is cleared and secured to the 30. This will be continued to the 50 for the purpose of opening the mine northward on Middleton's lode. North Wheal Rose engine-shaft is cleared and secured to the 55. At that point we find the shaft close and strongly timbered over. We have made a hole through and dropped a line in the water 13 fms., at which point the plummet struck another solar.

GAWTON.—G. Rowe, Sept. 8: We have laid open the lode in the 117 east over 10 ft. wide, and so far seen it is showing a promising appearance, yielding sulphur and arsenical mundic, with fine stones of yellow copper ore. The lode in the winze sinking below the 117 east continues to show the same kindly appearance, and yielding 10 tons of arsenical mundic, mixed with copper ore, per fathom. Nos. 1, 2, and 3 stoves, in the back of the 117 east, continue without change during the past week. The lode in the stope east of winze, in the bottom of the 105, is yielding 7 tons of mundic per fathom. The stope in the bottom of the same level, west of said lode, is yielding 9 tons of mundic per fathom. Nos. 1 and 2 stoves, in the back of the 70 east, are yielding 12 tons of arsenical mundic per fathom.

GLASGOW CARADON CONSOLS.—Wm. Taylor, Wm. J. Taylor, Sept. 10: Elliott's shaft is being pushed on below the 114 by nine men as fast as possible; the ground without change to notice. —Harvey's Lode: In the 114 west the part of the lode carried contains mundic and ore, but not to value; there are more branches in the granite near the lode, which we hope will improve it further on. We have put two men to open a

Gundry's shaft, to see a part of the lode that we are working on tribute in the level above. The lode in the winze in the bottom of the 100, west of the old engine-shaft, is 4 ft wide, and yielding some saving work for copper and tin.

**MID-DEVON COPPER.**—James Neill, Sept. 8: A Shaft: Water in fork to nearly the 30; machinery working well, and kept at three revolutions, which is a little over water-rate. C Shaft: The stope in back and side of 50 is yielding good branches and deposits of yellow ore, and promises an improvement. The 50 east, driven by six men and three boys, with rock-drill 2 ft, being hard and unpromising has been stopped, and the men put to cross-cut north from extreme end. This cross-cut has been extended 7 ft, and am pleased to report a decided change in the character of the strata. It is composed of garnet, hornblende, quartz, and chlorite, with occasional small deposits of ore, and has the appearance of leading to larger quantities. Surface: Men engaged at general work necessary to put in order and restore the land disturbed by alteration to rods; shall get completed next week.

**MONA CONSOLS.**—T. Mitchell, Sept. 12: The sinking of the engine-shaft is progressing fairly, and the men hope to put on another pump about the latter end of this week. We have about 1 fathom more to sink to be deep enough to cut plat preparatory to driving to open up the lode. The shaft is being continued the same size as before, and the lode is showing itself strong in going down spotted with copper ore.

**MOUNT CARBIS.**—W. Tregay, George Johns, Sept. 13: The engine-shaft is sinking below the 50 is being pushed down with all speed. The lode in the winze sinking below the 50 is worth 20/- per fathom for 6 feet wide, which is the breadth being carried. The lode in the 38 under the Carbona is worth 20/- per cwt of tin.

**NEW CARADON.**—N. Richards, Sept. 12: We have cleared the stuff in the shaft and about the adit level referred to in last week's report, and the men are now busily engaged securing the shaft about this point. The walls of the new smithy's shop will be finished in a day or two, when the whole of the masons will be employed building, loading, &c., for water-wheel.

**NEW KITTY.**—W. Vivian, Sept. 13: The 50, driving west of cross-cut, lode about 2 ft. wide, very kindly in appearance, producing stones of tin. Thomas's Shaft: Sinking below the adit level; lode from 2 to 3 ft. wide, of a very promising character, producing mundic, copper, and tin.

**NEW WEST CARADON.**—N. Richards, Sept. 12: In driving the 38 cross-cut south of Hallett's shaft we have just intersected a sparly lode, about 20 inches wide; and, although poor in the cross-course, may be found productive when driven on away from the influence of the same. Clyma's lode, in this level, is showing spots of copper ore. The little north lode on which we are driving west in this level is from 10 to 12 in. wide, yielding good stones of copper ore. A stope in back of the 40, on the main lode, is producing saving work. Two stopes in back of the 30, on this lode, will yield together 2 tons of copper ore per fm.

**NORTH BLUE HILLS.**—S. Bennetts, Sept. 12: Although the lode at the bottom of the engine-shaft now being sunk below the 14 maintains its size, about 2 ft. wide, yet it has not thus far improved in the production of copper ore, nor is there so much mundic as there was a few feet higher up. The ground, however, is becoming somewhat harder, and this will, probably, affect the lode in some way or other very shortly.

**NORTH GREEN HURTH.**—J. Polglase, Sept. 6: The vein in the deep adit level is about 1 ft. wide, composed of clay. The men will soon hole to the rise, in the back of deep adit level south. The level in the new property is without any claim.

**NORTH TRESKERRY.**—Fryer and Son, Sept. 13: The setting for this month was as follows:—The deep adit level to drive east of cross-cut, north of Scovier Consols engine-shaft, on No. 21m lode, by four men, at 4/- 5s. per fathom, lode worth 20/- per fathom for tin; also to drive west of cross-cut on No. 1 tin lode, by four men, at 5/- per fathom, worth 15/- per fathom for tin. We have drawn to surface a large heap of tinstuff from these lodes, the quality of which will bear fair comparison with the richest tin mines in the country at the same depth, and we should strongly recommend the continuing of the deep adit cross-cut further north to intersect several other well-known lodes which can be reached within 50 or 60 fms. from the present end; to do this Jabez's shaft must be sunk from its present bottom to the deep adit level, and when this part of the property is developed it is our opinion that equally as good a mine will be opened up as the West Kitty and other neighbouring mines in the same parish. (St. Agnes).

**OKEL TOR.**—H. Brifford, J. Rodda, Sept. 13: In consequence of the breaking of the H-piece at the 55 at the engine-shaft the water has risen so that we have been unable to sink the new shaft during the past week; but we have now replaced the H-piece, and the water will be drained to the bottom level by the end of this week. The different points underground are looking just as reported last week.

**OWEN VEAN AND TREGURTHA DOWNS.**—William Derry, Henry Prin, Sept. 13: The poppet-heads and pulleys were lifted into position, and the angle pulleys fixed to draw from the stack shaft. By Saturday next the rise in the back of the 40 will be communicated with the shaft sinking below the 30. The lodes in these workings is most productive of tin. The masons are rapidly progressing with the engine-house for the new stamps. The west road shaft is cleared below the troublesome ground, and will now require very little timber. All other works are proceeding in a satisfactory manner.

**PANDORA.**—W. H. Borlase, Sept. 13: The lode in the 13 on No. 2 east and west lode is still improving. No. 1 pitch in the back of the 33, on Goddard's lode, is looking well, fully worth 2 tons of lead per fathom. Other pitches are looking better for blende, but producing a little less lead. No lode in the 23 cross-cut yet. The weather is very fine, much against our water-supply; after to-day we shall only have enough to keep the wheel pumping without running the risk of falling short.

**PARYS COPPER CORPORATION.**—T. Mitchell, Sept. 12: The 90 east of this cross-cut is looking more hopeful than we have seen it some time. There is a little copper and sulphur showing in the hanging side of the forebreast, and we hope this change will lead to something valuable as we advance in this direction. The end driving west of cross-cut at this place continues to look much the same as last week. The ground here contains small strings, or faces, of copper ore and sulphur in the joints, which is considered a favourable indication in connection with the lode about this place.

**PENHALLS.**—S. Bennetts, J. Goyne, Sept. 12: There has not been much alteration either in the size or value of the lode in the 80 west end for some weeks past. In the 70 east end it is worth 6/- per fathom. The 60 east end has slightly improved, and is now worth about 5/- per fathom. In the 60 cross-cut north another large gossan has been passed through, to the north of which the killas is somewhat harder and mixed with small veins of blende, indications of a lode near at hand. On the Balduh lode the 42 west end is producing a little tinstuff but not of much value.

**PHENIX AND WEST PHENIX UNITED.**—John Truscott, Sept. 13: Setting Report: Seccombe's Shaft: The 200 to drive west from a point east of this shaft, by six men at 15/- per fathom; lode worth 10/- per fm. for part carried.—Old Sump Shaft: To stop the back of the 130 by four men at 2/- per fathom; lode worth 14/- per fathom. No. 1 stop in the back of the 120 by six men at 2/- 15s. per fathom; worth per fathom 15/- No. 2 stop in the back of the 120 by four men at 2/- 15s. per fathom; worth per fathom 15/- No. 1 stop in back of the 110 by two men, where the lode is worth 20/- per fathom, the rise being principally in granite. To stop the back of the 80 by four men at 2/- 10s. per fathom; worth per fathom 15/- The 60 to drive west by two men at 3/- 10s. per fathom, the end being in the gossan part of the lode. No. 1 stop in back of this level by six men at 2/- per fathom; worth per fathom 15/- No. 2 stop in back of this level by four men at 2/- 10s. per fathom; worth per fathom 15/- No. 3 stop in back of the 110 by four men at 2/- per fathom; worth per fathom 15/- No. 4 stop in back of the 80 by four men at 2/- 10s. per fathom; worth per fathom 15/- The 60 to drive west by six men at 2/- per fathom, the end being in the gossan part of the lode. No. 1 stop in back of this level by four men at 2/- 10s. per fathom; worth per fathom 15/- No. 2 stop in back of this level by four men at 2/- 10s. per fathom; worth per fathom 15/- The 60 to drive west by six men at 2/- per fathom, the end being in the gossan part of the lode. 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the old state of things would reappear. They had to do a good deal of other work in the past quarter, and it had interfered with the rising of their best tin.

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BRANDS:—BEST SELECTED INGOT, L.C.B.S.  
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HENRY WIGGIN AND CO.,

(LATE EVANS AND ASKIN),

NICKEL AND COBALT REFINERS,  
BIRMINGHAM.

#### The Mining Market: Prices of Metals, Ores, &c.

METAL MARKET—LONDON, SEPT. 14 1883

	IRON.	£ s. d.	£ s. d.	TIN.	£ s. d.	£ s. d.
Fig. 600, f.o.b., Clyde ...	2	6	5	—	97	0
Scotch, all No. 1 ...	2	7	3	—	98	0
Bars Welsh, f.o.b., Wales ...	5	7	6	—	99	0
" in London ...	5	17	6	—	93	17
" Stafford, " ...	7	2	6	7	50	0
" in Tyne or Tess ...	5	15	0	5	17	6
" Swedish, London, ...	9	10	0	9	15	0
Rails, Welsh, at works ...	5	7	6	—	93	17
Blues, Staff., in London ...	5	5	8	10	0	0
Plates, ship, in London ...	8	10	0	8	15	0
Hoops, Staff., ...	7	0	0	7	50	0
Nail rods, Staff., in Lon. ...	6	15	0	7	0	0
STEEL.	—	—	—	—	—	—
English, cast ...	12	0	0	18	0	0
" cast ...	30	0	45	0	0	0
Swedish, kgs ...	15	0	0	—	—	—
Light, at works ...	4	10	0	4	15	0
" Light, at works ...	6	5	0	—	—	—
LEAD.	—	—	—	—	—	—
English, pig, common ...	12	10	0	12	15	0
" " ...	12	17	6	13	2	6
" " W.B. ...	13	2	6	13	7	6
" sheet and bar ...	13	7	6	—	—	—
" pipe ...	13	12	6	—	—	—
" red ...	16	0	0	—	—	—
" white ...	18	10	0	20	0	0
" patent shot ...	15	15	0	—	—	—
Spanish ...	12	6	2	—	—	—
NICKEL.	—	—	—	—	—	—
Metal per cwt. ...	—	—	—	—	—	—
Ore 10 percent. per ton. ...	—	—	—	—	—	—
SPELTER.	—	—	—	—	—	—
Silesian, ordinary brands ...	17	8	15	2	6	0
" special brands ...	15	7	6	—	—	—
English Swansons ...	15	12	6	—	—	—
hot zinc ...	19	0	0	—	—	—

\* At the works, 1s. to 1s. 6d. per box less for ordinary; 10s. per ton less for Canada; 1s. 6s. per box more than 10c. quoted above, and add 6s. for each X. Terne-plates 2s. per box below tin-plates of similar brands.

**REMARKS.**—Our markets have not undergone any material change, and no new feature of any particular importance has arisen. Speculators are not very active just now, as the prospects are so uncertain. In addition to many other events which may bear an adverse influence upon our markets of a more or less serious nature, there is at the present time the political difficulties existing between France and China, and it may be well whilst this question is agitating the public mind to see the probable effect upon our metal trade in the event of a Franco-Chinese war. It is evident that the effect would be serious, and therefore every intelligence which comes to hand of a likely settlement of that difficult question in a peaceful manner is viewed here with the greatest satisfaction. Should hostilities break out the trade of the whole country would be materially influenced in a detrimental manner, and although metals perhaps would not suffer to such a degree as some other branches of commerce, yet the effect upon the metal trade could not be otherwise than of a very adverse character. The immense quantity of all kind of metals which are annually shipped to China is quite enough to prove the accuracy of this statement without further comment. Manufacturers of iron, copper, lead, and tin-plates would all alike have their orders greatly reduced, and the whole trade with China, if it did not become entirely stagnant, would nevertheless assume very limited dimensions and be greatly retarded. The dillatoriness in bringing about a settlement between the two Powers in question is therefore viewed with dissatisfaction; but as the question is a difficult one, a good deal of allowance is made for the tardiness in bringing matters to a close, which everyone must hope will be arranged, and that very soon, in an amicable manner.

But to leave this question, which affects the export trade, and to briefly turn our attention to the home trade, it is a matter of no small regret to find that here, too, there is ground for a considerable amount of anxiety. A few weeks ago, owing to a favourable change in the weather, we were able to report better harvest prospects, and some of the farmers in the Southern counties were able to gather in their crops in a fairly satisfactory condition, but others have not been equally fortunate. Advice from Cheshire and North Wales report that the storms and inclement weather have entirely prevented the housing of the crops, and that several thousand acres of ground are still lying out; whilst the reports from the Northern counties are likewise unfavourable. Hence the home trade is influenced in an adverse manner, and doubts are again being expressed as to whether, after all, there will be any real, general, and sound recovery in the trade during the autumn. During the past few years prices have generally recovered in the autumnal months, some metals more than others; but times change, and this year, instead of there appearing to be any symptoms of recovery, the tendency, on the whole, is just the reverse. In previous years the recovery has taken place before this, and those who look for a continuance of the present dull state of trade, assign this as another reason for the probable accuracy of their views, arguing that, according to several precedents, the upward movement would now have begun, or, at least, shown ere this some symptoms of its near approach. Others, however, always hopeful, cling to their stocks with much tenacity, hence the markets taken all round mostly remain steady, one day tending in one direction, and the next in another; but ultimately showing very little variation. This has been their characteristic for many months past, so that neither "bull" nor "bear" operators could have been making very large profits, although, of the two, the latter must have gained the more advantage.

**COPPER.**—The speculative demand has continued dormant, and at the early part of the week prices displayed a drooping tendency; but yesterday a more favourable turn took place, and prices slightly recovered. It is easy to understand the inactivity that has been displayed by speculators; in fact, it would be rather remarkable were they to show much desire to buy, because according to the latest returns there is every indication of the maintenance of heavy supplies, a feature which always deterrers operators from entering into the market, and always tends to dull the prospect. In short, the demand for speculative account may be described as featureless, and we pass on to consider the state of the trade so far as the legitimate demand is concerned; and here, taken altogether, there is reason to be satisfied with the amount of business already done. Last week we were able to report the deliveries in August as extremely good, and so far during this month the deliveries are said to have been very large, while a fair business has been doing in manufactured with India. At the same time prices do not improve, which is entirely due to the excessive supplies, and in some quarters it is thought that the prices being obtained for manufactured are not proportionately high with those realised for Chilli bars; but upon this point there is a diversity of opinion for prices of both.

Chilli bars and manufactured have remained steady for a very long time past. Prices of manufactured are low, and it scarcely seems desirable for buyers to keep their orders in abeyance for reduced rates, but rather would it be better for them to adopt the plan which many of them have already done, as is proved by the recent heavy deliveries, and fully avail themselves of the current low rates to

purchase while they are able upon most favourable terms to gather in their harvest while supplies are plentiful, and fully satisfy their requirements. Changes are effected very speedily, and unexpected turns not unfrequently take place; and notwithstanding just now the market is gloomy, and the immediate future cannot be well foreseen, yet with the easier tendency of money, and should there be any falling off in supplies, or speedy settlement of the political difficulties between France and China, a sharp change for the better might speedily be effected, and leave all dilatory buyers in the lurch.

**IRON.**—This market is still dull, and prices remain steady. Prices at the present time are very low, and, as we have often pointed out, well worthy of the attention of buyers. It is a generally recognised fact that manufacturers could not turn out iron at figures much below those which are now being quoted; and it is a matter upon which there is a diversity of opinion as to whether current rates do or do not leave any margin of profit at all. Some buyers seem to realise the cheapness of present rates, and have consequently made purchases upon a more or less loss scale; but others have been doing very little, and appear to be holding off for even still lower rates. Manufacturers seem to be looking for higher prices, not so much that they expect an increased demand to spring up, although some of them do not seem to think that that is improbable, but also they look for increased cost of fuel, as well as of wages, which would necessarily tend to stiffen prices. Quietude is reported to reign in almost all parts of the country, and no single branch is said to be in a brisk state. The raw material is equally depressed with manufactured, as may be gathered from the advices from Glasgow. This is not surprising, for the stocks continue to accumulate, and production is kept on a large scale. But, on the other hand, while speculative business is very quiet, transactions for the ordinary wants of the trade are large, so much so that sellers seem to think that prices cannot be kept down very much longer particularly in face of the increasing cost of production.

Prices have been dwindling down, not only for mixed numbers, but also for makers' iron, the latter showing a reduction of 6d. per ton. The shipments continue large, while a heavy quantity of iron has also been sent from Middlesborough; but notwithstanding that the total last week was large, it did not quite equal that for the same time of last year. The Glasgow warrant market having been very dull last week, and with a marked downward tendency, opened on Monday last in a somewhat similar condition at 4s. 4d., from which point it continued to recede until the following day, when 4s. 15d. was accepted, closing at the lowest. On Wednesday there was a change for the better, and business was done up to 4s. 3d., with buyers over, and yesterday again a moderate number of transactions was carried through between 4s. 4d. and 4s. 3d., and the closing figure this afternoon is 4s. 5d. per ton. The shipments last week were good, amounting to 12,394 tons, against 10,629 tons for the corresponding week of last year, being an increase of 2,265 tons, and which makes the total shipments for the whole of this year 455,727 tons, against 446,291 tons for the similar period of last year, and 398,127 tons for the same time of 1881. The number of furnaces in blast is 114, and the total visible stock has been increased to 585,839 tons. The imports of Middleborough pig-iron from Grangemouth last week were 5140 tons, against 5747 tons for the same week of last year, being a decrease of 397 tons, and which makes a total increase for the whole of this year compared with last of 26,891 tons.

Advices from the Cleveland district show that there is no change in prices, but there has been scarcely any business, transactions being almost entirely confined to the present and pressing wants of the trade. The price quoted for No. 3 is 39s., although the general quotation amongst makers is 39s. 3d., and 3d. more for special brands. The deliveries this month have, so far, been well maintained, and have exceeded those for the corresponding period of last month by 8000 tons. The shipments last week were more than 23,000 tons, and the price for warrants is 39s., although the demand is much neglected. In the public stock there is a reduction of 110 tons for the week, amounting now to 71,381 tons. There is very little business doing in manufactured, except for immediate delivery. Buyers will not buy for forward delivery, and the current prices for ship-plates is 6s. 10s. to 6s. 15s.; for angles, 5s. 10s. to 5s. 12s. 6d.; and for bars, 5s. 15s. to 5s. 17s. 6d. per ton. According to the advices from Wolverhampton the market there has been steady, and prices have been well sustained. There is not a large business doing, but prices are stronger, owing to the uncertainty of wages amongst the colliers and ironworkers. The price for sheets is 8s. 7s. 6d. to 8s. 10s. for doubles, and trebles are quoted at 9s. 7s. 6d. to 9s. 12s. 6d., but few sellers ask more than 9s. 10s. There is a quiet demand for pigs, but prices are firm, and Northampton qualities are quoted at 4s. 7s. 6d.; Derbyshire at 5s. 6d.; and all-mine qualities at 6s. to 7s. per ton. The Birmingham market is also unsettled by the wages question, and a higher rate of wages is fully looked forward to, and prices are, in consequence, stiffened, but from the actual amount of business doing they receive little or no support. Buyers will not pay dearer rates, and common bars range from 6s. 2s. 6d. to 6s. 10s., and sheets 7s. 10s. for singles. There is a rather better demand for singles, at somewhat improved rates.

**TIN.**—This market opened strong at the commencement of the week, and prices for cash parcels of foreign advanced to 94s. 5s., at which figure the market for a time remained steady; but this advanced figure somewhat checked buying, and although prices were fairly well up held, yet the tendency was towards ease, and during the latter part of the week 2s. 6d. per ton less has been accepted. It is thought not unlikely but that a sharp rise may possibly take place in the value of this metal before very long, as the actual stock here is not much more than two months' requirements—that is to say, if deliveries are maintained upon their recent heavy scale; but upon this ground it can scarcely be expected that prices will materially advance. Good deliveries always tend to improve the tone and stiffen prices; but then there is also the question of supply, and it is evident that permanent enhanced rates must depend both on good deliveries and light supplies. The last returns showed reduced visible stocks, indicating that supplies had been kept under requirements, which would doubtless have the effect of placing prices upon a much more remunerative level for holders there were to be any repetition of such favourable figures.

The large quantity of tin, however, which is being consumed in America is a feature which, perhaps, will bear a more important influence upon future prices. The extensive quantities which are constantly going there, both from the centres of supply as well as from this country, may, perhaps, be taken as the principal cause of the prolonged maintenance of tin at its present high value, that is, proportionately speaking, with other metals, and with what the trade has been accustomed during the past few years. In the event of American consumption causing a continued diminution of stocks, then, of course, prices, notwithstanding their present proportionately high value, will, in all probability, be still further advanced. But now there are not sufficient grounds to justify any expectations of such an augmented consumption. It is true the last statistics showed a reduced stock; but for the two previous months stocks had been gradually swelling, and it therefore requires further advices before any correct estimate can be formed upon this point. A public sale is announced to take place next Thursday week, Sept. 27, at Rotterdam, when 22,400 slabs Banca and 41,000 slabs Billiton will be offered for sale.

**SPELTER.**—SPELTER continues dull, and quite without alteration, ordinary brands being quoted at 14s. 17s. 6d. to 15s. 2s. 6d. per ton. English is quoted at 12s. 10s. to 12s. 15s.

**BRASS.**—The market is steady, and only a limited business is being carried through.

**TIN-PLATES.**—Prices keep very steady, and a fair business is being transacted.

**QUICKSILVER.**—In fair demand, and firmly held.

The settlement of the usual fortnightly account has again occupied the attention of the dealers in the MINING SHARE MARKET this week, and very little alteration has taken place in prices or in the amount of business transacted. Mines dealt in have included Dolcoath, East Pool, South Frances, West Kitty, West Seton, Bratsberg, Prince of Wales, Wheal Crebor, West Crebor, and a few others. TIN is firmer, but the smelters make no sign at present, and the standards for ore have not been advanced since Aug. 28. More business has been done in tin shares. Blue Hills, 1s. to 1s. 10s.; Carn Brea, 5s. to 6s.; Cook's Kitchen, 2s. 2s. to 2s. 2s. Dolcoath leave 6s. to 6s. 10s. in Cornwall 201 shares have been sold by auction in order to pay the premium demanded for a new lease, and the average price realised was 6s. 18s. 6d. All the shares, it is said, were purchased by local parties, and they realised 13,434. 17s. 6d.

East Pool, 40 to 41 s.; at the meeting the accounts showed a profit on three months' working of 5826. 13s., and a dividend of 18s. per share was declared. The tin sold, 323 tons, realised 15,324. 15s. The average price of this, as against 50s. 1s. 10s. in the previous quarter, was 47s. 7s. 6d., making a difference of 1000d. in the quarter's sales. The mine is looking well. East Blue Hills, 4s. to 6s.; Killifreth, 1s. to 1s. 6s.; New Kitty, 1s. to 1s. 6s.; North Blue Hills, 2s. to 4s.; Polrose, 4s. to 5s.; this mine has been specially inspected by an old agent of the adjoining mine, Great Wheal Vor, and his report is most encouraging to the shareholders. South Condurrow, 8s. to 8s.; Tincroft, 6s. to 7s.; West Basset, 4s. to 5s.; West Kitty, 1s. to 1s. 6s.; West Peever, 3s. to 3s. 6s.; Wheal Agar, 1s. to 1s. 6s.; Wheal Grenville, 6s. to 6s.; Wheal Kitty and Agnes, 1s. to 1s. 6s.; Wheal Pever, 3s. to 4s.; Wheal Uny, 2s. to 3s.; South Frances, 8s. to 9s.; the 226 end west is reported as worth 60s. per fathom. Trevaunance, 2s. to 2s. 6s.; the cross-cut driving south on the 55 level is supposed to be near the lode, and the returns of tin will increase when there is more water for the stamps. New Trumpet, 1s. to 1s. 6s.; Mounts Bay, 4s. to 5s.; South Crofty, 6s. to 7s.; Wheal Jane, 4s. to 5s

Kit Hill Great Consols,  $\frac{1}{2}$  to  $\frac{3}{4}$ ; the progress made at the Tunnel level during the past week has not been so good, the ground being unfavourable for exploration. Good progress has been made at the north engine-shaft and in the various levels, the lode in the 75 west being from 4 to 5 ft. wide.

South Devon United,  $\frac{1}{2}$  to  $\frac{3}{4}$ ; the lode in the 110 east has been driven during the past month 17 ft., and maintains its size and value. Martin's shaft will be completed to this level in a few days, when the sinking of the shaft will be resumed and pushed forward without delay.

South Wheal Frances,  $\frac{3}{4}$  to  $\frac{9}{4}$ , and reported in demand; the tin sales during the past month amount to 2000L, and the agent reports that the various lodes are improving in value. The 226 end west has increased to 60L per fathom. The administration of this property sets a good example to Cost-book mines, the liabilities being promptly met; so that the profits when made will not be subject to any deduction for outstanding debts.

Wheal Jane Tin,  $\frac{1}{2}$  to  $\frac{3}{4}$ ; the last sale realised 8617. 3s. 8d., which at present monthly costs should leave a profit; the new jiggers are working well.

Michipicoten,  $\frac{1}{2}$  to  $\frac{3}{4}$ ; the newly appointed resident manager, Capt. J. D. Holman, sailed on Wednesday to "take up his abode on the island, from whence in the future he will, assisted by Capt. Opie, conduct the operations of the company."

Richmond,  $\frac{5}{4}$  to  $\frac{6}{4}$ ; the week's run was \$18,000, from 287 tons of ore, with one furnace. During the week the refinery produced doré bars to the value of \$15,000. The superintendent's report on the present condition and extension of the prospecting, deadwork, &c., for the week ended Aug. 20 states that the 1050 north-west drift from above has run 27 ft. Total 35 ft. On fissure in limestone. The 1050 east drift from north-west drift (No. 1) has been run 22 ft. Total 194 ft. On fissure in limestone. The 1050 south-east drift (on fissure) from rise to 900 winze has been extended 26 ft. Total 100 ft. In limestone.

Ruby and Dunderberg,  $\frac{1}{2}$  to  $\frac{3}{4}$ ; the drift from the bottom of the new shaft has made fair progress this week, and has opened out the ore body on this level to its full extent, which is 25 ft. by 5 ft.; the ore in the latter portion of the drift is advised as being of better quality than that lately passed through. Work on the other mines was proceeding as usual, the tunnel in the Lord Byron having been advanced 21 ft.

California Gold,  $\frac{1}{2}$  to  $\frac{3}{4}$ ; the mill-run this week was 261 tons, yield 400L, smelting ore sales 200L. The weekly report states that the recent testing of the lode at a depth of 1450 ft. has resulted in the discovery of ore of high grade and of good width.

Kohinoor and Donaldson,  $\frac{1}{2}$  to  $\frac{3}{4}$ ; the Donaldson stopes are reported to be yielding satisfactorily, and the Champion Mine is also looking well, especially at the 520 west, which is yielding largely both milling and smelting ore.

The Souback and Catir Alan Mining Company have received bills of lading of 66 cases and 16 sacks of ore, which they expect will arrive at Liverpool shortly.

In Lead Mine shares there is still very little doing, and the position of the lead market having been scarcely maintained buyers are not readily found. The tendency of prices is rather downward than otherwise, but quotations are in most cases quite nominal. Roman Gravels, 7 to  $\frac{7}{4}$ ; and several transactions are reported. The sale during the past week of 250 tons of ore realised 1850L. The 95 south is worth 4 tons of lead ore per fathom, and the 80 south 6 tons per fathom, the stopes throughout the mine being equal to last valuation. The director's report will, it is expected, be in the hands of the shareholders in a few days.

At the Stock and Share Auction and Advance Company's sale on Thursday the prices, among others, obtained, were—National Liberal Land, 5L shares, 1L paid, 20s. 6d.; Victoria Dwellings Association, 2L, 5s.; Don Pedro North del Rey Gold, 6d.; Croydon Trams, 7L; Sorridge Copper, 1s. 6d.; The United Horse Shoe and Nail, 8s. 9d.; Civil Service and General Store, 16s. 9d.

The directors of the Manitoba Mortgage and Investment Company have declared an interim dividend for the half-year ended June 30 at the rate of 8 per cent. per annum, free of income tax, payable on and after Wednesday.

BRATBERG.—The report received this week from the managers is again exceedingly satisfactory. No. 3 (the deepest) adit is worth 12L per fathom, and improving; while No. 2 adit (above) is driven 60 fms. ahead of the former, and is worth 15L. This is most important. There are four ends being driven and two rises, but other good points will be resumed when they can haul the stuff to surface with the new winding-engines. With the immense extent of ore ground laid open there is more than ample space for stopes, which can no doubt be considerably increased when the means of dealing with greater quantities of stuff are ready. Taking 1 fm. at each point at present in operation the aggregate value is nearly 450L. They were daily expecting the Mary Owen to load with 220 tons of ore, and were chartering another vessel to take 250 tons at the beginning of October. The Samuel Hollands has arrived this week at Swansea with 240 tons.

DEVON FRIENDSHIP.—The 43, the winze below the 30, and the stopes continue to yield well. The stonebreaker is expected to go to work at the end of next week, and this will enable the returns to be further increased. The directors have accepted one of the tenders for the new pumping-wheel to be erected at the old mine.

TRESAVEAN.—The published report in another column, although short, is full of interest to shareholders. All points appear to be good and improving in value. Fresh tribute pitches are continually being let, and the yield of copper at the 100 is very important, the lode producing 4 tons per fathom, and having the appearance of opening up a rich run of copper ground, while the tin lodes are looking better all round. Several new points will be ready for tributaries shortly, which will, no doubt, materially increase the monthly sales.

POLROSE.—This mine was inspected on September 10 by Capt. S. Harris, formerly of Great Wheal Vor Mine, adjoining Polrose, and which gave large profits to the adventurers. The following are Capt. Harris's remarks upon the prospects at Polrose:—The engine-shaft is sunk 6L fms. below the 112, on the Margaret lode, which, in the bottom of the shaft, is 3 ft. wide; better defined than ever I saw it before. In the south part of the shaft there is one large branch or dropper, about perpendicular, that will fall into the lode in another 10 or 12 ft. sinking; besides this, there are several small branches between the lode and the branch named which contain a little tin. I broke portions of the lode and branches, from which I took a fair sample, that produced 1 qr. 7 lbs. of tin per ton of stuff. I herewith enclose the tin from the sample. I have had a great deal of experience in the neighbourhood, being an agent in the adjoining mine, Great Wheal Vor, for over 20 years, and I am pleased to say I think the change in the bottom of Polrose a very favourable one; and, about the depth that the Metal part of the Great Vor commenced to be rich, and I shall be greatly disappointed if Polrose does not continue to improve from now.

GOGINAN SILVER-LEAD.—A very important discovery is just reported to have been made at this famous old mine. For some time past explorations have been going on in the 70, under the ground which in times gone by gave splendid returns of silver-lead, and although for many months the prospects of finding anything of value were the reverse of cheering this opportune discovery, at a moment when things seemed at about their worst, has put the managers and proprietors in good spirits again, and the most confident belief is now expressed in a successful future. Early last week news came from the mine that the end of the 70, which had up to that time been poor and hungry looking, had improved in appearance, and this was very soon followed by the welcome sight of a stringer of rich silver-lead, similar to what had in the old days of the mine been found in the upper workings, from which something like half a million sterling has been realised. There has since been a steady improvement, and the further the lode is opened out the richer it has grown, until it has become profitably productive, and shows every indication of being the commencement of one of those extensive deposits of mineral for which Goginan has been famous during a period of about 40 years. The mine captain under date of Sept. 11 writes that the lode continues to look well, and yields "25 ows. of silver-lead ore per fathom. We are carrying 2L ft. of the lode in the drivage, and by the end of the week we shall have the lode in altogether. The lode

contains ore all through so far north as we have seen it." From this it appears certain that when the lode is fully opened out a very large deposit of mineral will be disclosed, and the labour and expenditure of the company during the past three years of gloom and depression will, we trust, be amply repaid. A later account of the discovery, sent by an old resident at Goginan village, describes the lode as being richer than reported, and values it at fully 2 tons of silver-lead ore per fathom. It is needless to say the matter is being watched with great interest, and has caused quite a revival of spirits amongst miners in the district.

EAST WHEAL ROSE.—The agent's report this week again shows that the work of development of this great property is being prosecuted with untiring energy. To closely follow the whole of the points mentioned is a work of difficulty without working plans, but sufficient can be gathered without those to arrive at this conclusion—not only is the opening up of the mine being pushed forward with all speed, but that success attends the forward march at every point. It appears while clearing a level to reach one lode two other lodes have been intersected, and are productive of silver-lead ore, thus adding considerably to the previous estimated value of this south part of the mine. Another point of great importance is the clearing of North Wheal Rose shaft to the 55, and finding it secure another 13 fms deeper. This shaft in all probability will now be found secure to the bottom. When it is remembered the lode at the bottom of this shaft is reported to be worth 20 tons to the fathom the value of this part of the mine can scarcely be over-estimated. Capt. Skewis and Dodge say—"On no occasion have we seen the prospects so satisfactory and encouraging as they are to-day."

#### TO COPPER SMELTERS AND MINING MANAGERS.

**WANTED**, a PARTY with experience in SMELTING COPPER ORES. Preference given to one with a knowledge of Water Jacket Furnaces.

Also a MINING MANAGER, with practical experience in working Copper to the Lodes. Both for QUEENSLAND.

Apply by letter, stating age, experience, references, and salary expected, to MESSRS. SIMPSON, KIRK, and DONALDSON, 133, West George-street, Glasgow.

**WANTED**, GOOD SECOND-HAND, a 60 or 70 inch PUMPING ENGINE, either Cornish or Bull; one set each of 12 and 18 inch PLUNGER PUMPS, with rising columns; a pair of underground HAULING ENGINES, with double drums, and cylinders about 15 inches diameter; two double-riveted Lancashire BOILERS, 20 to 30 feet by 7 feet, to work at 70 lbs.

Apply to T. and W. MORGANS, The Guildhall, Bristol.

**WANTED**, for the Gold Coast, Africa, an ENGINE DRIVER One who can rivet preferred.

Apply, stating salary expected, to J. B. ROSS, 7, Lancing-terrace, Ealing, London, W.—Sept. 13, 1883.

**WANTED**, £200 for three months, and 15 per cent. will be paid and in the meantime £1000 worth of shares of a rich Tin Mine will be deposited with other security. The Tin Mine is now opening in a rich district, and the lode is very rich.

Particulars from "Friend," care of MINING JOURNAL Office, 26, Fleet-street, London, E.C.

#### LEAD MINES, near OLD SHEPHERDS.

**WANTED**, a few GENTLEMEN, or a COMPANY, to JOIN IN WORKING. Engine erected, shaft sunk, lode opened. Terms liberal.

Apply, R. TRENERREY, Cocks, Perranzabuloe, Truro.

**A CERTIFIED ASSAYER** and ASSOCIATE of the ROYAL SCHOOL OF MINES, who has had six years' experience as Manager of Metal Mines, desires an APPOINTMENT in MINE or SMELTING WORKS, at home or abroad.

Address, "H," care of Mr. STANFORD, 55, Charing Cross, S.W.

**ENGAGEMENT** as NON-PROFESSIONAL OVERLOOKER REQUIRED by a gentleman of some military experience. Home or abroad. Reference and guarantee.

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#### B R A T S B E R G C O P P E R C O M P A N Y (LIMITED).

Notice is hereby given, that the directors have DECLARED an INTERIM DIVIDEND at the rate of SIX PER CENT. PER ANNUM for the six months ending 30th April, 1883, PAYABLE 1st October, 1883; and that the Transfer Books will be closed from Monday, 17th, to Saturday, 22nd September inst., both days inclusive to enable the list to be settled for the payment of the same.

By order of the Board,

H. C. MURCHISON, Secretary.

8, Austin Friars, London, E.C.—Dated 4th September, 1883.

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#### L E A D O R E S S.

Date.	Mines.	Tons.	Price per ton.	Purchasers.
August—Brynn-yr-Afr	8	£ 7 2 6	Weston, Son, & Co.	
—Mynach Vale	17	7 12 6	ditto	
Sept. 11—Lisburne	50	8 13 6	Sheldon, Bush, and Co.	
—Cwmystwyth	26	6 19 0	Goodhart and Co.	
—East Darren	27	9 16 0	Walker, Parker, & Co.	
—Isle of Man	120	9 13 0	Quirk, Barton, and Co.	
13—Talgarth	—	—	—	
—Maesyrwddu	50	7 10 6	ditto	
—Cottis Llys	19	8 11 6	ditto	
—North Hendre	50	7 18 0	Adam Eytom.	
—ditto	50	7 15 0	ditto	
—Tanner's Great Consols	—	—	—	
—Tanner's	23	7 0 0	Sheldon, Bush, & Co.	
—ditto	23	7 12 0	Walker, Parker, & Co.	
—Raman Gravels	50	7 10 6	Adam Eytom.	
—ditto	50	7 5 0	ditto	
—ditto	50	7 10 6	Runcorn Company.	
—ditto	50	7 2 0	Panther Lead Co.	
—Van	40	8 13 0	Adam Eytom.	
—ditto	80	8 15 0	Sheldon, Bush, & Co.	
—ditto	40	8 14 0	Weston, Son, and Co.	
—ditto	40	8 17 6	Panther Lead Co.	

#### B L E N D E.

Date.	Mines.	Tons.	Price per ton.	Purchasers.
Sept. —Brynn-yr-Afr	20	£ 3 0 0	Crown Spelter Co.	
13—Talgarth	435	4 1 0	Vivian and Sons.	
—Tanner's	40	3 17 6	Crown Spelter Co.	
—Bog	30	3 12 6	Villiers Spelter Co.	

#### C. PASS AND SON, BRISTOL.

## NOTICES TO CORRESPONDENTS

CROOKES' MINING AND SMELTING COMPANY (Colorado).—I have anxiously looked over the *Mining Journal* for a report of the meeting called by the above company for Aug. 31. There is no such report. How is the company progressing? Is there some "hitch" in the contract? If you could give me some brief intimation as to the "jul" in its progress—the cause of its shareholders receiving so little information of late concerning its prospects—you will confer a favour upon one of your many subscribers.—W. W. B.: *Lytham, Sept. 10.*

MINING ON THE GOLD COAST.—I should be glad if some correspondent would in form me, through the *Mining Journal*, what progress is being made with the Cankim Bamou Mining Company, established some time since for working mines on the Gold Coast?—F. M.

CORRESPONDENCE.—"N. N."—It would greatly facilitate the correct insertion of communications if correspondents would kindly send them early in the week. When trade and market matters have to be attended to, matters which could equally well have been forwarded before are necessarily thrown aside.

WEST WHEAL ROSE.—"G." (Yeovil).—Your best course will be to consult a respectable solicitor, who would probably make application to the Court to get your name struck off the register. Your 1s. per share is probably lost; but unless you get the matter settled you may at some future time be called upon for the other 1s. per share (assuming that they are 12 shares), although you might be the only holder of shares other than fully paid. Unfortunately there is no law to prevent allotment before any reasonable amount of working capital has been subscribed. Bankers ought to be made liable to return deposits unless three-fourths at least of the working capital is paid up, but at present they are not so liable.

PAUL LEVY.—Mr. R. Larchin, of Finsbury-circus, in reply to "F. L." in last week's *Journal*, writes that he is in correspondence with the proprietor of the Paul Levy, in Surinam, and also with his agent, shortly in London.

ADVERTISEMENTS.—"D. and Co." (Glasshouse-street).—The price varies according to the class of advertisement thus: Prospects, per column 12s. 12s.; per page, 30/- General advertisements, and advertisements for situations, or for officers, &c., 8d. per line; minimum charge, 4s. Financial advertisements, official notices, and the like, 9d. per line; minimum charge, 7s. 6d. The line averages 11 words. Trade advertisements continuous, or for frequent repetition, are charged by the inch in depth, according to size, position, and length of order. Estimates will be forwarded on application with particulars.

Revised.—"E. N." (Collacombe): It is altogether impracticable to determine the price at which a share shall be advertised.—"G. J. M." There has been no edition of the *Mining Guide* for the last 25 years. You will probably find what you want in the official *Mineral Statistics* published by H.M. Stationery Office.—"W. B." (Threlkeld): We cannot trace any connection between the two firms. The London agents of the Crown Zinc Company are Messrs. Henry Rogers, Sons, and Co., St. Mary Axe.—"J. Y." (Grosvenor Gallery Library): All replies to letters and communications published in the *Journal* must be in similar form; no replies are in any case forwarded direct to the writers.—"J. G." (New Trumpet): Partially next week.

THE MINING JOURNAL,  
Railway and Commercial Gazette.

LONDON, SEPTEMBER 15, 1883.

## Death of Mr. Richard Middleton.

It is with sincere regret that we announce the death, in his 80th year, of Mr. RICHARD THOMAS MIDDLETON, for more than forty-five years the acting partner in the *Mining Journal*, and we are sure that this regret will be shared by the vast majority of our readers. His business tact has been evident to all who have come in contact with him, and in many cases his timely mediation and practical suggestions in matters entirely unconnected with the *Journal* have not only prevented litigation but restored disputants—which in connection with share transactions and the promotion of companies there are, unfortunately, too many—to their previous position of friends. Enjoying a strong constitution and robust health, which he was careful to preserve, he scarcely knew what illness was until the end of 1880, when he contracted an affection of the lungs, from which he never thoroughly recovered. Yet he continued to attend actively to business, and although at the beginning of the present year he had again a serious and lengthened attack, he persevered most manfully, and was on his partial recovery at the office almost daily until Thursday, Sept. 6. He died at his residence, at Barnsbury, on Monday evening, of jaundice and dropsy, his mind being clear and active until a few hours before his death. Few men have enjoyed more uniform respect in business, and probably few have succeeded better in reconciling conflicting interests.

## THE TERMINATION OF CONTRACTS.

The notices simultaneously issued by three of the largest steel-making firms in South Wales, to the effect that all contracts will terminate at the end of the current month, is of most significant importance. They tell in unmistakable language that the proprietors find it absolutely necessary to reduce the standard of wages; and we fear it is almost equally apparent that these notices, unless the men are guided by far greater discretion than has hitherto prevailed, will lead to another of those disastrous strikes which are the bane of modern times. It is useless to attempt to disguise the fact that however apparently active many of our large steel and iron works may have been of late, the prices obtained are barely remunerative—anything but proportionate to the large amount of capital involved in the trade, and the anxieties and responsibilities consequent upon the keen competition which now exists on all hands. We have repeatedly urged that strikes are most disastrous to all parties; both masters and men are losers, whichever side eventually wins. Unfortunately, strikes are now of almost weekly occurrence in some part of the kingdom or the other—no sooner is one over than another breaks out elsewhere, and this internecine warfare between capital and labour is constantly waged to the detriment of the trade and commerce of the whole country. We cannot too often repeat for the serious consideration of our working classes, or too strongly emphasise, the remarks which Mr. FAWCETT, M.P., made several years ago, when he said—"It is in vain to expect any marked improvement in the general economic condition of the country as long as the production of wealth involves a keen conflict of opposing pecuniary interests. The efficiency of capital and labour must be most seriously impaired when, instead of representing two agents assisting each other to secure a common object, they spend a considerable portion of their strength in an internecine contest." If our industrial classes would only lay to heart these words of sound common sense and prudence we should hear no more of strikes such as that which occurred a short time since at North Staffordshire, and which cost an absolute loss of no less than 150,000/-.

It is in the earnest desire, in the present critical condition of the steel and iron trades of the kingdom, that another disastrous strike shall be averted that we pen these remarks. The artizans cannot possibly be in so good a position to judge of the exigencies of the trade as the makers. Orders are undoubtedly more plentiful than they have been for some time past, and there is an apparent activity at the works; but prices are low and unremunerative, and it requires no small amount of perseverance and firm faith in the future to keep the works in operation. One of the most costly factors in the production of steel and iron goods, and all our great staple manufactures, is that of wages, and, unless this is reduced, it is very much to be feared that the country will be unable successfully to compete with the rapidly increasing productive powers of other nations, and where wages are not nearly so high as in England. It would be well if our industrial classes would bear in mind the fact that it is nothing but the vastly superior natural advantages which this country possesses, coupled with the excellence and stability of workmanship, which enables us to maintain our manufacturing supremacy. This supremacy must be maintained at all costs; and if our manufac-

uring classes would still earn good wages and continue to live happy and prosperous, they must submit to the exigencies of the times, and bow as cheerfully as possible to the inevitable.

The present is the time when steps are generally taken to secure the autumnal and winter trade; and we take it one of the principal reasons given for the termination of all contracts at the end of the present month at the large steelworks in South Wales is to allow the managers to make contracts for some months to come. It will depend, to a very great extent, upon the attitude of the men in the present juncture, whether the works shall be active and vigorous over the winter, or whether they shall be only partially occupied, if not altogether idle. A reduction of wages, a lessening in the cost of production, must inevitably lead to a considerable expansion of trade, and this expansion would mean permanent employ. One would think that such considerations as these would lead to serious reflections on the part of the great body of operatives. We may rest assured that the steps just taken by the masters has not been taken without due consideration, and unless absolutely necessary for the promotion of the best interests of all. We are faint to believe that the great bulk of our working classes are content with their condition, and that if left to themselves to solve the present wage problem they would decide to submit to such a reasonable reduction of wages as would enable makers to enter more freely into the markets, and compete upon more favourable terms with foreign nations in the production of those staple articles upon which our national prosperity depends. Our general working classes were never better off than at present, except, perhaps, during two or three years of exceptionally inflated prices. They are now earning high wages, higher than any other nation (all things taken together), they can get cheap food and cheap clothing, and they should be with prudence and economy comfortably well off. If they are not now content, then we know not what will satisfy them. The same rate of wages, or very nearly so, are paid now as when the prices of manufactured articles fetched nearly 50 per cent. more than they do at present. They have had a long period of comparative prosperity; they must now face the difficulty before them, and if they are wise in their day and generation they will gracefully accept a reduction of wages—say, of 10 per cent.—as an imperative necessity, and as the only means of maintaining our national supremacy.

## WONDERFUL DISCOVERY OF TIN ORE IN SOUTH AUSTRALIA.

About 10 miles south of Bridge Creek, at the foot and east of Mount Shoobridge, in the northern territory of South Australia, Mr. Cruikshank has discovered two massive outcrops or lodes, each from 8 to 10 ft. in width and from 30 to 40 feet long, composed of talc, quartz, and black tin, yielding of the latter, on assay by Mr. F. Claudet, 17.10 per cent. of metallic tin. These outcrops are about 30 ft. apart, running parallel, and at the highest point stand 9 ft. above the surface of the ground. Their bearing is north-east and south-west, with a slight tend to the south-east. About 300 yards north-east of the above, but at a less elevation of some 30 ft., another outcrop occurs, from 5 to 6 ft. in width, of similar composition, but perfectly level with the surface. The formation of the country contiguous to the lodes is a soft micaceous sandstone.

A deposit of alluvial tin, which in the course of time has become disintegrated from the lodes, has also been discovered from the summit down the slope of the range, varying in thickness from 1 to 4 ft., and yielding from 3 lb. to 6 lbs. of black tin to the dish of 20 lbs. of stuff, and giving on the report of the same assayer 70.46 per cent. of metallic tin. This important discovery is likely to prove even richer than the famous Mount Bischoff Tin Mine, in Tasmania. Owing to the favourable nature of the matrix of the lodes no expensive dressing machinery, such as a battery of stamps, will be required; but simply a portable steam-engine, stone-breaker, crusher, and self-acting jiggers. With this simple and inexpensive machinery it is estimated 10 tons of black tin per day can be produced.

The projected Government railway from Palmerston to Pine Creek will pass within 10 miles of the mine, and when constructed will considerably lessen the cost of carriage, labour, &c., and further add to the profits of the undertaking. Large blocks of ore, one of which weighs over 1 cwt., have been received in London, and can be inspected by those interested.

## MINERS' WAGES, AND MINERS' DEMONSTRATIONS.

During the last few days an agitation has been commenced for the purpose of obtaining a general advance of wages from the colliery owners, and in furtherance of other objects in the interest of the working miner. Demonstrations, as they are termed, have taken place at Ilkeston and Chesterfield, in Derbyshire, at which were present many well-known speakers connected with mining associations. The wages question was, of course, the *piece de resistance*, and it was pointed out that everything now favoured a large advance. It is true that the coal trade of late has been exceptionally good for the time of year, and that in many districts the men have been able to work the full six days weekly, which, one would think, was greatly to their advantage. But it would seem that the men are more contented when they are only working four days a week than when they are fully employed. When trade is good the agitator makes his appearance, and it is his work to sow dissension, for discontent on the part of the toilers is the manna on which he lives and thrives. No one will deny the right of the miner to participate in the advantage of good trade; but wages must be identified with profits, and it does not follow that profits increase with every improvement in trade. Of late there has been a great increase in the quantity of coal exported, more especially to France and Germany, and this position has only been attained by selling at a low price, as in those markets there is a great deal of competition. But the colliery owners, by working to a very fine point, being content with a most trifling profit, have been able to find constant employment for their work-people, and for so doing, in some instances, at least, they are asked to give more money in the shape of wages because of their successful efforts in keeping their works fully going. At the demonstrations that were held recently in Derbyshire no allusion whatever was made to the export trade, although more than one-eighth of all the coal raised in Great Britain is sent abroad—and, therefore, because the miners were well employed, *ergo*—the employers were making large profits, a portion of which belonged to the workmen. If the employers are now making a profit—as no doubt they are—it is more than they did during the previous three or four years, for as we frequently pointed out at the time, there were few who made the most trifling profit, many who lost heavily by keeping their mines going, whilst those were considered fortunate who were able to make both sides of their ledger balance. But such trifles as these are never alluded to, or even thought of. At the demonstration at Chesterfield on Monday, Mr. PICKARD stated that last year the men went in for 15 per cent. advance and got 10 per cent. Coals then went up 1s. per ton, so that the masters got 10/- per ton, whilst the men obtained the other 1/-.

This is one way of looking at the matter, but not the correct one. House coal in the autumn certainly went up 1s. per ton, as is usually the case; but steam coal, on the other hand, did not realise so much as it did in the summer. But the advance in the price of house coal only took place where there were no contracts on hand, and many colliery owners enter into contracts for forward delivery at certain prices, which are in no way affected by the market quotations. These are simple facts that are known to the trade, but are never mentioned by those who advise the men, and are paid for so doing. They present only one side of the picture, and in this respect are not by any means so fair as the intelligent workmen, who are amenable to reason, which is more than can be said of those who are placed in the position of leaders. Amongst the other grounds for asking for an advance of wages is the forced use of safety-lamps in most of the Derbyshire mines. One of the speakers—a miner—went so far as to say that he would never go down a mine where safety-lamps were used. Such lamps were ordered after the fatal explosion at Clay Cross last year, and for the express purpose of giving the greatest possible amount of safety to the miners whilst at work. Yet some of the men would prefer running every risk if by so doing they could

get a little more coal in the course of a shift. In fact, many of the men show that they would not make the slightest sacrifice for their own protection, hence the resolution at the Chesterfield demonstration that in enforcing the use of safety-lamps at collieries in Derbyshire without any remuneration was arbitrary and unfair. Political matters, it may be said, are becoming prominent at these workmen's gatherings, probably in the absence of any actual trade grievances, and at the meeting on Monday there were resolutions with regard to land tenure, which at present was stated to be detrimental to the interests of the nation, and also with respect to Parliamentary representation. But after all the wages question was the one in which the greatest interest was felt, and it is evident that an agitation has been commenced that will extend in all directions, at least in the mining districts, and when we are told that it is intended to demand an advance of 20 per cent. all round, it will be admitted that the agitators will in all likelihood have a very large following, and that some inconvenience to trade may result in a few of our mining districts. Firmness and combined action on the part of the employers will be necessary to counteract the counsels of the men who live by agitation, and by endeavouring to sow strife between employers and workpeople.

## THE MINERS, AND INTERMEDIATE EDUCATION IN WALES.

The miners of the Aberdare Valley have wisely determined not to tax themselves for ten years for the exceedingly questionable advantage of giving their sons a collegiate education, until they have more maturely considered the matter. The proposal to establish Labour Scholarships in the new University College of South Wales is well understood by all the more intelligent of the working colliers as absurd, and the movement is recognised throughout the whole district as a clumsy attempt on the part of the friends of the College, and not friends of the working colliers, to grind 150,000/- out of poor, hardworking men, for the benefit of the College officers. It would not be unreasonable to ask Mr. Ivor James, the principal speaker at the meeting, for substantial evidence of the accuracy of the assertions he is reported to have made at the poor miners' mass meeting. He had, he declared, been commissioned to deliver his message to them that day by the College Council at Cardiff, and he was glad to know that his proposition had been endorsed by some of the leading statesmen of this country. The difficulty of getting into that college was the difficulty that they had to solve for their children. How were they to solve it? Their children were in the elementary schools, and elementary schools would not train them to a position for entering the colleges. He had been one of those who did not in the first place believe in the college, because he considered that intermediate educational facilities not having been provided the Government had begun at the wrong end of the stick. Well, he now asked them, in the face of these difficulties, to give one farthing per week for 10 years. This would amount in the aggregate to 150,000/. They proposed with that money to found scholarships for their children. These scholarships would be five years in duration—two years to be spent in school to prepare for the college, and three in the college itself. He concluded by asking them to come forward in their thousands and their tens of thousands, and give the paltry sum that was asked of them per week, in order that Wales might take its proper position in the world, and that its children might be abreast of the sons of Scotland and other countries, where considerable progress had been made in educational matters. A resolution was then read from the chair, which was to the effect that the meeting was fully convinced that it was the profound duty of the South Wales and Monmouthshire miners to adopt the farthing scheme, believing that it will be the means of raising the South Wales miners to a higher social standard.

That such a preposterous resolution should have been very freely criticised by many of the colliers is not at all surprising, and Mr. Charles James, M.P., deserves the warmest thanks of all workmen for giving them the sound advice to look before they leap. The honourable member remarked that this was a very important question. On a matter of such magnitude, of course it was desirable that Welsh children, who in the main were sharp children, should have the same opportunity of getting up the ladder as English children; but they had been unfortunately situated in Wales. Their great defect had been not so much a want of colleges as of intermediate schools, and it appeared to him that they were trying to build one storey in the educational edifice, leaving another out. Whether they were to be asked for money for ten years to establish schools of that sort was a matter which he thought they could not rush into without considering in mind the possible trade fluctuations of the valley. The motion was not put to the meeting, as there was evidently a wish that the matter should be deferred, and it is sincerely to be hoped that no similar attempt to impose upon the working colliers will be hereafter made. To offer a collegiate education to the son of a working man without money or influence is to offer him perpetual misery and poverty from the day he has completed his collegiate course—the character of the education and training which he receives units him to earn his livelihood as a collier or colliery official, and he finds when too late that every position which his knowledge would fit him for are filled by those whose original social position gives them influence, which the working collier can never hope for. What is required is that the working collier should receive such thorough instruction in every branch of the business of coal mining, that he may be fitted for the highest positions connected with the management of a colliery. For such positions men educated at college are usually absolutely worthless, and the employment of them jeopardises the lives of the workmen. Let the working collier have reasonable facilities for supplementing such elementary education as is now within his reach by the study of the subjects immediately connected with colliery operations and colliery engineering, and both pecuniarily and socially he will be far in advance of any holder of a labour scholarship in even the best university in the land.

ASSESSMENT OF MINES AND MACHINERY.—A new assessment made for Hunslet, Leeds, has caused much dissatisfaction amongst the heaviest ratepayers. The works of the well-known company, Messrs. John Fowler and Co., have been increased from 2472/-, 1s. 8d. to 5640/-, Messrs. Kitson and Co. from 1585/- to 5388/-, Messrs. Tannett, Walker, and Co. from 828/-, 12s. 6d. to 2311/-, and Messrs. Taylor from 2240/-, 12s. 6d. to 3663/- It appears that 14 large works in the town, who were until lately assessed at 13,426/-, 18s. 4d., have had their rateable value increased to 27,523/-, or rather more than double. Several collieries have also been considerably increased, although the rating hitherto paid has in some instances come out of capital. It seems that on every new assessment on mining or works some addition is made, whilst there does not appear to be any uniformity in the system of valuing. Now all kinds of machinery, fixed or otherwise, is considered assessable. This is certainly as yet not the case generally, for it has not been adopted in Derbyshire. Great efforts will, therefore, be made on the part of manufacturers, mineowners, and others to have the new assessment reviewed, and the result of these efforts will be looked forward to with more than ordinary interest by parties interested in all parts of the country.

MINING ON THE GOLD COAST.—The news brought home by the Senegale from the West Coast of Africa is anything but reassuring to those who have money embarked for the development of the mines in that region. It is reported from Accra that if the present Ashantee rebels carry their threat into execution there is likely to be another raid on the Gold Coast Colony. It seems that there are two parties in Ashantee, one of which wishes to restore the monarch deposed by Sir Garnet Wolseley and that a messenger has already arrived at Cape Coast Castle from the late King, saying the other party threaten to take away the Golden Stool (the throne) of Ashantee and bring it into the Gold Coast Colony rather than let them have possession of it. If this is done the ex-monarch says the whole of Ashantee will come after it into the British territory. That such a message was received is perfectly true, though the British

officials could scarcely credit that one so impudent could really have been sent by the late King Coffee. It is hoped in the colony that the Stool will be kept at Coomassie, though if the threat is carried out and the Ashantees march on the British colony they will doubtless get a warm reception.

## QUICK SILVER.

TO THE 31ST OF AUGUST, 1883, INCLUSIVE.

	1882.	1883.
Seasons import, entries, bottles, .....	about 48,165*	about 52,892
Imports from Jan. 1 to Aug. 31, bottles	43,165	52,892
Exports	25,632	32,265
Imports for August .....	1,175	529
Exports	4,188	2,342
Price per bottle, about .....	£5 17 6	£5 7 6
Stock in London to August 31, 1883, roughly calculated, is about 99,000 bottles.—London, Sept. 10.		
* Including December, 1881.		

## SCOTCH PIG-IRON WARRANT MARKET.

Mr. W. WILSON (Glasgow, Sept. 13) writes:—The warrant market was dull in the fore part of last week, and very flat latterly. The autumn being now fairly entered upon with no appearance yet of higher prices, there has been an increased desire to sell on the part of holders. This long continuance of low prices must bring about a reaction in the natural course of things. Already there has arisen a competition for labour between the various coal districts, and where better wages cannot be given furnaces may have to go out. The shipments are again large, and compare favourably with last year. While the Board of Trade returns show a considerable decrease in the exports of pig-iron for August, the opposite is true as regards Scotland. 687 tons were put into store here last week, while 110 tons were taken out at Middlesbrough. There is no change in the number of furnaces blowing. Business was done during the past week at the following prompt cash prices:—

Thursday, Sept. 6.	Friday, Sept. 7.	Monday, Sept. 10.
46 7/16, 46 5/8, 46 1/2, 46 3/4, 46 3/8	45 5/16, 45 3/16, 46 1/2, 46 3/4, 46 3/8	46 3/4, 46 2/4, 45 1/2, 45 1/4, 46 1/2
Tuesday, Sept. 11.	Weinstadt, Sept. 12.	Thursday, Sept. 13.
46 4/8, 46 1/2	46 1/2, 4 3/8, .....	46 1/2, 46 3/4, 46 1/2, 46 3/8
		1883.
Price of Scotch Warrants, Sept. 10..	46/3 .....	1882.
Furnaces in blast in Scotland do, .....	114 .....	1881.
Iron in store at this date .....	119 .....	39
Shipments of Scotch pig-iron for .....	585,927 .....	628,817 .....
week ending Sept. 5	12,324 .....	10,229 .....
Do. since beginning of year .....	455,752 .....	416,291 .....
Price of Middlesbrough, No. 3, Sept. 10	39/—	41/—
Furnaces in blast Middlesbrough dist.	117 .....	120 .....
Middlesbrough Iron Imported at Grangemouth, week ending Sept. 8	6,140 .....	6,533 .....
Do. do. since beginning of year .....	184,485 .....	157,594 .....
		207,732 .....
		169,479

## CHESTERFIELD AND DERBYSHIRE INSTITUTE OF MINING, CIVIL, AND MECHANICAL ENGINEERS

The annual excursion of the members of this Institute took place on Tuesday and Wednesday, and was well attended. The party assembled at the Midland Railway Station, Nottingham, whence they were conveyed in coaches to the Wollaton Colliery. Here they were received by Mr. G. Lewis, of Derby, the engineer to the company, and Mr. W. Dawson, the manager, and other officials, by whom, with the permission of Sir James Oldknow and directors of the company, they were shown the colliery plant and the air compressing and hauling machinery. Subsequently, at the invitation of Mr. Lewis, the party was entertained at luncheon in a marquee adjoining the colliery office. Mr. Lewis occupied the chair, and was supported by Alderman Sir James Oldknow; Mr. R. Birkin, J.P.; the Rev. J. M. Mellow; Mr. Evans, her Majesty's Inspector of Mines; Mr. Stokes, Assistant Inspector of Mines; Mr. Dawson, Mr. Joseph Whittaker, Mr. Longdon (Blackwell), Mr. W. Barnes, Mr. Stevenson (Newstead), Mr. Levy, Mr. Whittaker (Derby), Mr. G. W. Walker (Bulwell), Mr. J. R. Waddle (South Wales), Mr. H. Lewis (Annesley), Mr. Hey (Pleasley), and others. The usual loyal toasts having been drunk, the Chairman expressed the pleasure which it gave the owners of the Wollaton Colliery and himself to receive the members of the Institute that day. He had to propose "Success to the Chesterfield and Derbyshire Institute of Mining Engineers." Mr. Longdon, in reply, said with regard to that coal field, they would agree with him that there was a time when Lancashire and the North of England were considered best for underground and surface working, but Nottinghamshire and Derbyshire did not then stand high. They would, however, now find that Nottinghamshire and Derbyshire combined the advantages of the North of England with their own. The underground and surface arrangements in the collieries in these districts were almost as complete as possible, and it would be seen that when the collieries of Lancashire and the North of England had failed those in Nottinghamshire and Derbyshire would be in existence.

In responding to the toast—"The Health of her Majesty's Inspectors of Mines for that District"—Mr. Evans said that by meetings of that sort they were enabled to interchange their ideas, and see things which they did not see at home, and coming together as they did and hearing speeches made and papers read helped to make them better men and more useful to their employers. He quite agreed with Mr. Birkin that there should be a good feeling between employers and employed, and without that there could be no success; but how was it to be brought about? He thought it should be left to the managers of the collieries. What Mr. Lewis had said with regard to the "longwall" system was quite correct, and it was most perfectly carried out in the district in which they were at that time. He did not know in his experience any district where it was so well carried out as it was in the Midland Counties. The chief object of the Institute was, as it ought to be, the safety of the employed. Of course, gentlemen like Sir James Oldknow and Mr. Birkin, who invested their money in collieries, should be expected to profit by their outlay, and he was sorry to hear that the Wollaton Colliery had not yet been a success. It was, he was sure, the result of everyone present that success should attend the Wollaton Colliery in the future, and personally he should rejoice to hear that the next balance-sheet showed a balance of 15 per cent. Mr. Stokes also responded. He hoped that the good feeling, courtesy, and kindness which had always been extended by colliery proprietors and managers to her Majesty's Inspectors in that district would be continued in the future. He could only say that whenever their (the Inspectors') assistance was required, whether night or day, they would only be too pleased to render any service in their power. The party then proceeded to the Clifton Colliery, where an inspection was made of the colliery plant, underground hauling machinery, and Fisher's patent system of unloading and loading pit-cages, and other particulars connected with the undertaking, which brought the excursion to a conclusion, the day's proceedings having been much enjoyed.

Resuming the proceedings on Wednesday, a meeting was held in the Council Chamber of the Exchange for the discussion of papers which had been previously handed to the members. Mr. Howard A. Airport was voted to the chair, and there was a good attendance of members. The Chairman said that the papers for discussion by them were, first, that of Mr. S. F. Lees, "On a Self-Acting Arrangement for Unloading and Loading Colliery Cages" (Fisher's patent); a paper by Mr. Robert Wilson, "On the Koeppe System of Winding at Bestwood Collieries;" and Mr. Sydney Walker's paper "On the Electric Light and Transmission of Power by Electricity"—(a) electric lamps, (b) dynamo-electric machines, (c) accumulators. He (the chairman) had been informed that a further paper on the same subject had been submitted to the members. After discussion the Chairman proposed the usual votes of thanks. Mr. W. F. Howard (the secretary) then announced that several invitations had been received for the members to visit different manufacturing works in the town, after which a discussion took place upon the paper submitted by Mr. Wilson, and submitted at a previous meeting, on the Koeppe system of winding, which was in operation at Westwood.

A further paper by Mr. Walker on electricity was taken as read, as also was a paper contributed by Mr. Henry Fisher "On the System of Endless-Rope Haulage in use at the Clifton Colliery, with remarks on various clutch gears in use, and a description of a new frictional clutch for hauling engines and other machinery."

The Secretary then announced that Mr. Richardson, Whitwick Colliery, Leicester, and Mr. John Turner, assistant manager, Barlow Colliery, Chesterfield, had been elected members of the Institute. After various votes of thanks had been adopted, the members visited Mr. James Oldknow's lace factory, the Castle Museum, the University Building, and other places of interest in the town.

## REPORT FROM CORNWALL.

Sept. 13.—There are not wanting several indications of substantial improvement in mining prospects, all the more likely to be speedily realised that the disturbing influences are being one by one removed. The Dolcoath sales are having precisely the effect that we anticipated. The Tincroft lease has been settled on the basis of 1-40th dues when tin does not exceed 55*l.* per ton, and 1-26th when it is over; and these terms are said to give general satisfaction. That equitable terms could be arranged we never had any doubt. None the less, however, do we regret that, instead of the sliding scale, which is but one step in the right direction, the second was not taken. Now the prospect of a reform of the dues system on the pure profit basis is indefinitely postponed what is the use of talking about mining reform if, when the opportunity arrives, nothing is done?

East Pool, with various adverse conditions, has paid the satisfactory dividend of 18*s.* The mine is not only looking as well as ever, but seems likely to develop some very important additional features. It seems pretty clear that the Dolcoath gain in depth is to be repeated here also.

The event of the week has been the Polytechnic gathering at Falmouth, details of which will be found in another column. The exhibits in the mechanical department have been of unusual interest, and in several respects of special value. The most important practical speech was that of Mr. Warington Smyth, F.R.S., who dealt in a most able manner with the question of safety-skips in special relation to the numerous plans for safety clutches shown.

Quite an exceptional amount of special activity has been shown during the past week in the eastern part of the county and adjoining district of Devon. Colaccombe has held its first meeting since it was re-started on the Cost-book system; and Anderton, which is in the remarkable position of a Devonshire tin mine that is paying its expenses and something more, has started its pumping-engine. There are scattered about the flanks of Dartmoor so many old shallow mines that it is impossible to believe that with the improved appliances of modern mining there will not some day be a notable revival. Another point of interest connected with the eastern district is the presentation to Captain Skewis, on the occasion of his finally severing a 20 years' connection at Gunnislake (Clitters), by the workpeople of the mine of a silver inkstand and gold pencil-case—every man, woman, and child on the mine contributing. This most gratifying expression of esteem came as a pleasant surprise.

## REPORT FROM DERBYSHIRE AND YORKSHIRE.

Sept. 13.—The Iron Trade in the Chesterfield and other districts continues in a healthy state, there being a large output of pig without much going into stock. The mills are working better, and there is now every prospect of this important branch of industry being considerably extended in the county, for of late years it has fallen off a good deal. The foundries are well employed in pipes and other castings for which the Staveley, Clay Cross, and some other works have the highest reputation. A good deal of interest is now centered in the Coal Trade with the Metropolis, owing to the scheme to send large quantities of it from the Scotch collieries on the Forth at a very low rate. It is stated that the coal can be delivered to consumers at about 16*s.* per ton, whilst the present rate is from 22*s.* to 23*s.* for the best inlands. Should the Scotch coal really be brought into the London market, as it is stated it will be, then the question of the present railway rates for coal carried to London will and must be taken up by the different companies. At the present time the average charge by the five leading railway companies for coal going to London is about 7*s.* per ton from the different mining districts; and if to this is added 1*s.* 1*d.* per ton for the City dues, 9*d.* a ton for the truck hire, and 3*s.* 6*d.* a ton for carting and putting into sacks, there is a total of 12*s.* 6*d.* for the carriage of a ton of coal from the pit where it is raised to the premises of the consumer.

When to this is added merchants' profits, or agents' commission, as well as the rent of offices, &c., it will be evident that even at the present prices not such a very large sum falls to the share of the colliery owner for the mineral itself. With such an expenditure, it is needless to say that the inland coal would stand no chance whatever with that from Scotland, even if the latter was sold at 18*s.* a ton. But the mineral traffic is of the greatest importance to the railway companies, and they would fight hard to keep it, as was the case a few years ago, when the struggle took place between the Midland and Great Northern Companies, when coal was taken by the latter from South Yorkshire to London at 4*s.* 1*d.* per ton, whilst the present charge is 8*s.* 3*d.* per ton. To give some idea of the value of the coal traffic to London by railway, it may be said that, taking the railway rate to London from the different mining districts at 7*s.* per ton, the total for last month would amount to upwards of 200,000*t.*, or at the rate of nearly 2,500,000*t.* a year. If the pit price for all descriptions of coal sent by railway to London be taken at 9*s.* per ton, on which would be 32,272*t.* Taking the total cost of carriage, price of coal, and the City dues, the amount for August would have been in round numbers 502,000*t.*, and, assuming that the coal averaged 20*s.* a ton all round, this would leave something like 93,000*t.* for the present railway rates for coal carried to London will and must be taken up by the different companies. At the present time the average charge by the five leading railway companies for coal going to London is about 7*s.* per ton from the different mining districts; and if to this is added 1*s.* 1*d.* per ton for the City dues, 9*d.* a ton for the truck hire, and 3*s.* 6*d.* a ton for carting and putting into sacks, there is a total of 12*s.* 6*d.* for the carriage of a ton of coal from the pit where it is raised to the premises of the consumer.

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It will be seen from the above facts and figures that the coal traffic by railway to the Metropolis is of great importance to the railway companies, as well as to a large number of persons not connected with them. It is, therefore, to their interest to do all they can to extend it, and this can be only done by giving a moderate rate to the colliery owners, and such as will place them in a better position than they are now to compete with the sea-borne coal, the cost of the carriage of which is about 50 per cent. less than by railway. Of late, however, the railway-borne has progressed most favourably, and this will be seen from the following figures, showing the tonnage sent by the various railways during the last three months:—

June. July. Aug.

Midland ..... Tons 172,631 ... 186,620 ... 201,713

London and North-Western ... 127,858 ... 130,600 ... 149,408

Great Western ..... 71,255 ... 106,679 ... 85,229

Great Northern ..... 74,230 ... 100,676 ... 90,578

Great Eastern ..... 56,589 ... 65,282 ... 62,861

Other Lines ..... 7,258 ... 7,457 ... 7,945

509,821 ... 597,314 ... 597,805

It is a singular instance of the changes that are going on in the trade that more coal was sent to London by railway in August than in any previous month of the present year. But the agitation that has been commenced for an advance of wages has no doubt led to merchants and large consumers laying in heavier stocks for autumn and winter than would otherwise have been the case. The largest quantity of coal sent by railway was from Derbyshire, Clay Cross alone forwarding 22,000 tons. From a dozen collieries in Nottinghamshire, including Hucknall, Torkard, Linby, Annesley, and Babbington, no less than 83,000 tons were sent last month. From South Yorkshire Messrs. Newton, Chambers, and Co. forwarded upwards of 25,000, being the largest quantity dispatched by any company or firm during the month. The London and North-Western took an increased tonnage in August from several districts, including Wigan, Staffordshire, and South Wales. A good deal of Silkstone coal was forwarded from a few collieries in South Yorkshire, Birley taking the lead. The Great Eastern has not come up to what was expected of it when it obtained running powers over the Great

Northern to Doncaster, and access to the South Yorkshire coal field, for it has not taken much more coal from the district named than when it was entirely isolated from the locality. Colliery owners, it may be said, are looking forward to the railway companies reducing the rate in the face of the threatened competition on the part of the Scotch colliery owners.

## REPORT FROM NORTH AND SOUTH STAFFORDSHIRE.

Sept. 13.—The North Staffordshire colliery owners are this week receiving circulars inviting them to attend a meeting of employers at Stoke-on-Trent, to consider what steps should be taken towards making common cause with any of their number whose men have not yet resumed work. The colliers are gradually returning to work, but the number per day is but small, averaging, as it does, only between 20 and 30. The coal market in the south of the country remains quiet, for although a new Wages Board has been established the men on the west side of Dudley are dissatisfied with its nature, and have withdrawn their delegate, and there now appears to be uncertainty as to the loyalty that will be accorded by the other 12 districts represented. The decision of the arbitrator, Mr. Haden Corser, as to granting the demands of the men, a scale which means an advance of 8*d.* per day or stint upon present wages, has not yet been published, but although it is not anticipated that it would be difficult to arrange a scale that would leave masters in as good a position as they are now. The prevailing condition of things was not, therefore, such as to lead masters to make any concessions either on the Wolverhampton Exchange yesterday or in Birmingham to-day. Rates were firm on the week, with a moderate business doing. Best Thick coal of the quality needed by the thin sheet makers was moving at 9*s.* per ton, but more business was done in lower qualities at prices ranging from 7*s.* 6*d.* up to 8*s.*, and occasionally 8*s.* 6*d.* Common forge coal was to be had at from 6*s.* 9*d.* to 7*s.* 6*d.*

On Tuesday, a decided step was taken by the Mines' Drainage Commissioners in the project for perfecting the deep drainage of the mining area which they commenced when their interests were vested in the present triumvirate. For several years some four or five square miles of mine in the Stow Heath locality of the Bilston and Tipton district have been water-locked, and before that time the two engines dealing with it were of inconsiderable power. Now, however, an efficient engine has been set to work, which it is hoped will continue to benefit the district for at least 30 years to come.

The total cost in connection with its establishment has been some 3500*t.* The Chairman of the Commissioners, Mr. Walter Williams, took advantage of the formal opening to announce the completion of a system of surface drainage,

panies and others in this district are familiar enough with similar notices, which have often had no real result. They have been given at a period of depression like the present, but before the date of expiry the trade outlook has brightened, orders have come in, and there has been no necessity for any readjustment of wages and contracts. We say wages and contracts, for much of the work done in our large iron and steel works is now let out to contractors. At Tredegar, for instance, nearly the whole of the work above ground is done by contract, the only exception being the actual railmaking. The work in the Bessemer department is in the company's own hands; but, when the rails leave the mill, the straightening, punching, and other processes through which they have to go are done by contractors. In all endeavours to reduce the cost price of the finished article, therefore, the Tredegar Company, or rather the manager, has to rely more on being able to revise and reduce his agreements with the contractors who undertake the various departments of labour in the works than to reduce men's wages, those in the direct employ of the company being only a small proportion of the whole body. The number of persons affected by these notices amount to about 10,000.

The Tin-plate Trade remains in the same improved condition as last reported. Good coke-mades fetch from 16s. to 16s. 6d., while inferior sorts stand at 15s. 9d. to 15s. 10d.

#### TRADE OF THE TYNE AND WEAR.

Sept. 12.—There is still a fair demand for steam coal, and most of the works north of the Tyne are kept fairly going, but the Baltic trade is now drawing towards a close, and there is some anxiety felt as to the winter demand for this coal. Great complaints are made that it is not now supplied to the British Navy. Welsh coal now almost monopolises this as well as the French trade, but some exertion must be made to grapple with the Mediterranean trade at all events, and also to get part of the supply for the British Navy. There is still a good demand for steam small coal and bunker coal; but it is matter for surprise that shipowners and managers do not buy more North Country bunker coal, as it is suitable for the purpose, and much cheaper than Welsh coal. The demand for gas coal and house coal continues very good, and the price is likely to be advanced shortly. This is also a fair demand for coke at present; but the supply is large. The Jameson process for utilising the waste products, gas, ammonia, &c., in coke-making continues to make progress. It has been introduced at Branceporth, and at other places in Durham with considerable success. A paper is to be read at the meeting of the Iron and Steel Institute on this important question by Mr. Jameson.

The Board of Trade Returns show that during the past month the exports have shown a slight decension; but so far as we can ascertain exports of all kinds have increased from the North-Eastern ports. Coal exports have increased considerably, and other exports are also larger. The shipments of coal and coke from Tyne Dock continue very large—20,000 tons per day. In the Iron Trade shipments are now an average, and with a good local consumption there should be a decrease of stocks this month. The general trade of the district continue to improve, the iron shipbuilding trade in the Wear and Tyne is fully occupied, and the engineers, founders, &c., are also fully employed; but the effect of the strike of engineers at Sunderland has had a very injurious effect both in that and other kindred trades.

The Chemical Trade in these rivers continue to improve; the advance in the value of bleaching powder and other products in this trade has been marvellous during the present year. The price of bleaching powder has been more than doubled during that time, and other products have also advanced considerably.

The Pig-Iron Trade continues pretty steady for present account, and sellers are firm. The exigencies of buyers are generally rather urgent, as a good deal of No. 3 has to be got off this month for shipment. Demand is, therefore, comparatively large amidst the scarcity of No. 3, and this causes a good tone in the market. There has been a lull some time in the demand for new iron ships—on the Tees—one of the largest yards in that district are getting to the end of their orders, and they have received no new ones for six months. Freights are low, and this has reduced the demand for new ships. The iron trade may, therefore, probably suffer from this cause unless a revival takes place. The prices of manufactured iron are 2s. 6d. to 5s. per ton higher for present than for forward delivery. Ship-plates can be bought for winter delivery at 5s. 17s. 6d., while for early delivery they are 6s. 5s. Angles are now 5s. 12s. 6d.; puddled bars, 5s. 12s. 6d. Pig-iron stands firm at 39s. to 39s. 3d. Shipments for the week, 22,291 tons of pig-iron. Coke is steady at 9s. 6d. to 10s. per ton higher for present than for forward delivery. Ship-plates can be bought for winter delivery at 5s. 17s. 6d., while for early delivery they are 6s. 5s. Angles are now 5s. 12s. 6d.; puddled bars, 5s. 12s. 6d. Pig-iron stands firm at 39s. to 39s. 3d. Shipments for the week, 22,291 tons of pig-iron. Coke is steady at 9s. 6d. to 10s. per ton higher for present than for forward delivery. Ship-plates can be bought for winter delivery at 5s. 17s. 6d., while for early delivery they are 6s. 5s. Angles are now 5s. 12s. 6d.; puddled bars, 5s. 12s. 6d. Pig-iron stands firm at 39s. to 39s. 3d. Shipments for the week, 22,291 tons of pig-iron. Coke is steady at 9s. 6d. to 10s. per ton higher for present than for forward delivery. Ship-plates can be bought for winter delivery at 5s. 17s. 6d., while for early delivery they are 6s. 5s. Angles are now 5s. 12s. 6d.; puddled bars, 5s. 12s. 6d. 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**CHONTALES GOLD.**—Manager, Aug. 5: *Consuelo Mine:* Since we struck gold in the main level we have driven 36 varas through a lode which produced 16 ozs. of gold to the vara. I am now preparing to sink below the level at this point where the lode continues equally rich. During the past month the main level has been driven 15½ varas, but the lode is not so rich as in the two previous months, and the present end is now in a hard bar of ground. We have also stopped 116 varas from the back of the main level, and driven north and south to prove the ground for sinking. Quartz raised, 320 tons, worth on an average 17 dwt. to the ton. The stamps put through 370 tons, the remaining 50 of low grade. The cost at the mines for July was \$12, leaving a profit of \$66.

**CORPORATION OF SOUTH AUSTRALIAN COPPER.**—Capt. Bryant, July 14: *Bilamati Mine, Masoy's Shaft:* We are getting on with the cutting of the 70 plat, and will have it completed by the latter end of next week; we shall then commence sinking the 60 plat, remove penthouse, case and divide shaft, and put the shafting working order for new winding arrangements. The 60 south's yielding dressing work. The winze sinking below this level is worth for portion carried 3 tons 22 per cent. ore per fathom. The stopes in the bottom of the old 60 north is worth 2½ tons of 20 per cent. ore per cubic fathom. The winze sinking below the 50 south is at present passing through a poorish hard bar of ground, worth for portion carried 1½ to 21 per cent. ore per fathom. The tributaries working in the bottom of the 55 south are meeting with occasional good pockets of ore, and are, I calculate, making fair wages. Surface: The popper-heads are fixed in position; we are now erecting line of pulley-stands, which will be completed some time next week.

**MOUNT ROSE MINE.**—Capt. Tregoweth, July 20: During the past month the engine-shaft has been sunk and timbered 4 fms., present depth 8 fm. below the 23. In sinking we met with a bar of iron and rusty sandstone making from the south at an angle of 40° north; this we cut through after a few days' work; the south is now a good deal harder than the last 3 fms. sunk through.—*Crosscut South:* The 23 has been extended during the month 1 fm. 5 in., and we have cut through the run of ore ground. We drove a few feet west of cross-cut, but the main part of ore-bearing ground appears making east. We have driven east of cross-cut 10 ft., where we met with a really good deposit of black and grey ore, but like most of the other deposits did not hold as good long, although good ore is now showing in both back and bottom of the drive. The present end is worth about 1 ton 35 per cent. ore per fathom, set to two men at 6¢ per fathom.—*Stopes in Back of 23:* In consequence of the men having to lengthen the stull they did not stop so much productive ground last month; the part of the stope they are now working on will yield 1½ ton of 40 per cent. ore per fathom, set to save the ore as far as practicable at 5¢ per fathom.—*Slope in Bottom of 13:* We have brought in a stope to the ore ground from No. 2 winze. I estimate this stope will average 1½ ton 35 per cent. ore per fathom for the ensuing month; set to two men at 4¢, 10s. per fathom. By the end of the present month I hope the engine-shaft will be down 11 fms. below the 23 plat, at which point I would suggest we open out, cut a small plat, and drive north to intersect the run of ore ground at 33. Should the 10 fms. now being sunk, improve only as much as the last 10 fms. i.e., from 13 to 23, and the bunches of ore now going down in the 23 hold down, it will turn out many hundreds of tons of high class ore. As there is now in the bottom of the 23 a lode in several places that will yield 4 tons of 40 per cent. ore per fathom, if it could be worked away dry, but until the level is under this run of ground so as to drain it we cannot work the ore away to advantage, the best of it being black oxide; the percentage would be greatly reduced by working it until the ground is drained. This we will do as soon as possible.

**DEVALA-MOYAR GOLD.**—Manager, Aug. 17: We are getting on fairly opening out from the shaft, progress at present slow, as the ground is soft about the shaft and drainage heavy. We have two main sets in, and after two or three days we will be able to make better progress. As soon as we get away from the shaft a little I will put on three shafts, as then even a new hand can do little harm, while immediately about the shaft, if the workmen should let the ground run, we should lose the shaft altogether. We are getting on well with the planting, &c., and the weather continues favourable.

**EBERHARDT.**—Frank Drake, Aug. 21: In our working in No. 3 raise the rock has been hard, and our progress has been correspondingly small. The rock is a hard silicious lime and quartz, carrying ore, but not enough to save. At point of 66 ft. above our first level, or 96 ft. above Tunnel level, I have started drift northerly along the wall towards the No. 2 raise. The distance between the No. 2 and No. 3 raise is about 190 ft., and between these two points we have more or less ore. Our No. 2 raise is nearly all in quartz, and I think it will improve in value as we advance upwards, for we are now finding more mineral through the quartz. It is my firm opinion that this quartz that we are now working in will lead us into a body of ore.

**ENGLISH-AUSTRALIAN GOLD.**—Mark Pollard, Fryerstown, July 30:—We have crushed during the month from the tributaries working back of the 320 ft. level 170 tons of stone for a yield of 10 ozs. 13 dwt. retorted gold, which is very poor; this is going south of the rise. The top part of the stone is 5 ft. thick, and very poor, so the tributaries are working only the bottom part of the stone, where they see a little gold on the footwall of the lode; there are also two leaders in the western wall, they have seen gold in them. These leaders are 20 ft. above the back of the level; opposite this we had some good stone north and south of the prospecting shaft. We have also crushed and cleaned up from the tributaries working north and south of the cross-cut at the 140 ft. level 33 tons for a yield of 12 ozs. 4 dwt. retorted gold, which did not give them wages for the month, but it pays the company very well for crushing. The stone is very small going north, and I think another month will work all out the stone in the face is only 3 in. thick just now, and about 3 ft. from the eastern to the western side of the stone. There is plenty of stone on the south side of the cross-cut towards the late No. 2 tributaries' ground, but it is very poor on all the faces just now, yet it might improve as it goes over the old backs of the late No. 2 tributaries' workings.

We are crushing with five heads from the tributaries working at the 70 ft. level; they will have over 50 tons to crush by the time we catch on them, as they have 40 tons broken now. This is from the same face as their last crushing, only further south; they have not seen any gold in breaking; they have about 3 ft. of crushing stuff; the stone is of a rusty nature. We shall crush from the party of tributaries working north of Redhouse some time next week; they will have about 20 tons. The leaders they are working on is very small, and light ground to work over the leader, stone dipping north; they have a little water to contend with when it rains; that goes down through the old workings. The battery was stopped two and a half days last week, as we were doing some repairs to it and the engine, &c. The machinery is now in good order and working well; we have crushed during the month 324 tons, which have cost £1. 11d. per ton for crushing. The gold sold during the month was 31 ozs. 9 dwt. 23 grs., realising 119. 9s. 2d. The total receipts for gold sold and sundries were 131. 2s. 7d.; the total payments were 127. 5s. 5d.; surplus receipts, 31. 17s. 2d. The balance of cash over liabilities was 73. 12s. 7d. The financial agent writes:—"The Forest Creek Wattle Gully Company's claim is no doubt on a continuance of your western reef," and the Castlemaine Leader of July 24 states a trial crushing of the quartz, 19 tons, yielded 17 ozs. of gold, and the company will have 200 ft. in length of same to work upon above the 650 ft. level.

**GOLD COAST.**—July 31: The Elephant is at work night and day. One arrasta is at work, and will suit this class of fine gold splendidly, but each of the six of them will be able to put through much more stuff when I gear them on to the counter shaft from the new engine, as I find hand-power is too slow for them. I enclose the Abontuyakoon cash account for July. You will see that it is in a more condensed form than hitherto. It will be a satisfaction to me if my directors, through you, will occasionally write to me for a detailed account of any one or more items that may appear to be somewhat excessive in the monthly accounts. The next consignment of gold will leave here on or about Aug. 15. In conclusion, I have to thank you for your courteous letter, and will assure you of my prompt attention to any suggestions you may make as regards lists of mill and ration stores, so as to ensure a more stable system of sending out those necessaries.

—Aug. 14: Yours of July 12 and 13 to hand and contents carefully noted. I think we are on the eve of a most remarkable discovery, as follows:—Month before I went to England I was continually harassed with the fact that, notwithstanding constantly getting assays of 10, 12, and 20 ozs. of gold per ton from the quartz in this mine, the resulting gold from our machinery was merely a fraction of these amounts. When in England I sent some of the tailings for assay:—The result (the certificate I enclose) was so (to my mind) absurd that I silently disbelieved them, and since then have been constantly trying to think the thing out. To day I have just concluded the most successful experiment I have yet made on them, and with the next consignment of gold, which will leave here next week, I will send you the result of the experiment in the shape of the crucible scoria, which is composed of powdered green glass, borax, soda carbonate, and 6 ozs. of tailings. The scoria as you will see through a microscope, is impregnated with gold. I shall continue the experiments until I arrive at some means of treating large quantities. When that means is discovered our tailings will yield millions.

You may rest assured that I take every precaution to guard against any loss of bullion in transit from here to Axim. It is all sent overland, so that the only danger is of my escort people being attacked and robbed; however, they are well armed, and as trustworthy as fear can make them. I am very proud of having such an ample supply of money. The very presence of money in the safe being known to all the people in Taquash and Axim influences them in their endeavours to please me with their work, relieving my mind of a lot of worry, and enables me to diminish expenditure, where, if I was short of cash, I would have to pay at any cost. Together with the cash I have some 60 odd pounds' worth of gold in the safe, mainly taken from the plates up to date. This will be added to daily until next week, when the boxes and ripples will be cleaned up, and the lot sent off by the returning escort that brings the specie. I am well aware that you are very much in want of gold, but you must just rest satisfied in the meantime with what I can send you from the gravitation stamp; for, until that agent of mine comes back I cannot get the pulveriser belt-plate and arras-tras up from Bonash. I have tried one of the latter with hand-power and found an immense success. When we get the six at work with steam then we will begin to get gold. Many thanks for enquiries after my health; it is first-class, and my men are all the same, and in glorious spirits, mainly on account of the expected result of these tailing experiments.

**HOOVER HILL GOLD.**—Aug. 25: We have been keeping 10 stamp running on ore from the Tunnel stope, and the other 10 running part of the time on ore from the Galtimore. We have also milled the balance of the ore broken in the Galtimore at 70, and some ore from an old dump which we want to get out of the way to bring a branch tramroad up to the Hawkins' open cut, which we are clearing out. We have got the switch in, and the road laid about half of the way. In the prospecting cross-cut north, along the dyke from the drift from the bottom of the Hawkins' shaft, we have got an occasional colour the last few days, and mixed with the (iron) sulphurite a little lead (galena). I have not yet assayed a sample. This is the first time I have seen any appreciable quality of lead in the ore, and I think it is only an isolated occurrence.

**ISABELLE GOLD AND SILVER.**—Aug. 20: The two men I had in the north drift in the 220 ft. level have been occupied the greater part of last week in timbering up the drift, which was caving from the water, which is coming in, and so can only 4 ft. The indications in the face are still favourable for reaching an ore body at no great distance. I took them out on Saturday, and put them to work on the east side of that drift, nearly opposite the ore chute at E, where I found a bunch of rich black ore (small now, but which may open up) revealed by the caving of the ground at that point. The other man took out 1 ton of good black ore from the north-west end of the Big stope, besides attending to the pumps, and ear-ring. I have got another teamster to haul what we have got out since the former teamster left at \$3 per ton. Since writing the teamster has arrived with a load of ore, and brought me a few lines from the

miner in charge, as follows:—"The lower level is looking very well for a body of ore. We are working in the place where you showed us on Saturday, and it has opened out to about 6 in. I will send you a piece of the ore by the teamster."

**KOHINOOR AND DONALDSON.**—Mr. A. Rickard, in his report for the week ending Aug. 15, says, respecting the Donaldson Mine:—The stopes continue to be worked on tribute. The No. 1 stopes are yielding 1 ton of smelting and ½ ton of milling ore per square fathom; the lode is 8 in. wide, of which half is auriferous quartz of fair grade. The No. 2 stopes are yielding ½ ton of smelting and ½ ton of milling ore per square fathom; the south part of the stopes has improved, there being more smelting ore, whilst the remainder holds its own. In the intermediate level the grade of the ore in the north part of the stopes has fallen off in value, but the ground will pay eventually. At the Champion Mine the 600 stope is in 45 ft. The 520 west is yielding 2 tons of smelting and 3 tons of milling ore per square fathom; the lode is strong and well defined, yielding largely, although the ore is not of high grade; it will pay well with the quantities susceptible of being furnished by these works. The lode in the 400 east is opening out of ore of good grade, and the stopes are yielding 1 ton of smelting and 2 tons of milling ore per square fathom, which is satisfactory. The tribute pitholes are all yielding fairly.

**LAKE SUPERIOR NATIVE COPPER.**—Capt. Williams, Aug. 18: No. 3 level north on the course of the lode advanced 34 ft., producing a little native copper. No. 3 level south on course of lode advanced 20 ft. 1 in.; the lode at present is 7 ft. wide, looking very promising indeed. We have now only 12 ft. to drive to communicate with the winze from No. 1 level. No. 1 level south on course of lode advanced 8 ft., producing a little saving work for copper glance. No. 1 rise in back of No. 2 level south rose 20 ft. 8 in. No. 1 winze bottom of No. 1 level north sunk 10 ft., at which point this rise and winze communicate all the way through from No. 1 to No. 2. We have gone through a very strong native copper-bearing lode, and in a winze we began sinking to-day it continues to go down. No. 2 level north on course of lode from No. 3 shaft advanced 23 ft.; lode 4 ft. 6 in. wide, looking very promising for native copper. No. 2 level south on course of lode from No. 3 shaft advanced 27 ft.; lode 7 ft. This lode is producing a little native copper, and as we are now entering the good band of ground gone through in the level above I expect a change for the better every day. About ½ mile west of No. 1 shaft, No. 20 lode, we found some good indications of native copper near the lake. I have put down a Diamond drill hole 250 ft. At the depth of 65 ft. we went through 3 ft. of lode; rock producing native copper. We then went through 15 ft. of hard trap, when we struck into a band of amygdaloid 12 ft. thick, bearing some strong shot copper, after which we had trap. We have also put three miners to strip and test this band 700 feet south on its course, and am pleased to say we have found the lode widens considerably, and yields strong native copper, and if the Diamond drill hole now going down (on another angle) and another test pit now making on the course of the lode result as favourably as the first two I shall have no doubt that we have quite as good a mine at this point as on the No. 20 lode. I shall be able to give you more particulars in my next. We continue to make good progress at surface.

**NERUBUDA COAL AND IRON.**—J. A. Maughan: In laying before you my progress report for the month of July I am glad again to be able to show an increase in the output on the previous month's quantity.—Output: The output for the month of July amounts to 2035 tons 2 cwt. 2 qrs. 25 lbs., of which amount 1820 tons 14 cwt. 0 qr. 25 lbs. were sales, and 214 tons 8 cwt. 2 qrs. were used in colliery consumption. The total receipts on last month's quantity amounts to 428 tons 16 cwt. 2 qrs. 3 lbs., and the increase as compared with the corresponding month of 1882 is 602 tons 17 cwt. 3 qrs. 7 lbs.—No. 2 Shaft: The workings from this shaft continue to look exceedingly well, and though still dipping heavily continue to be uninterrupted to the east by faults. We have not got rid of the water quite to the extent that was anticipated in my report for June after prickling a feeder of water in the Helen Pit shaft, but there is no doubt that the water in these workings is gradually decreasing, and that when we get to the No. 2 seam we shall be no more troubled in No. 2 shaft workings. Had it not been for the Helen Pit we should not have been in a position to work so far to the dip this monsoon as we have. There are 15 wide boards in the Charnau district going east, but they are all just entering square R 31 to R 40 respectively, none being more than a yard or two ahead of the other—in fact, our whole working face may be said to be 40 ft. long, and lying between the squares R 31 and R 40. There are two headways going south in square Q 40, and these will shortly get the south-west dyke or nipp out, but each succeeding headway south has further to go before this fault is met with. The Charnau and south level are now one district, as the south level has been gradually compressed by the faults on both sides into a narrow strip, and as the fault now towards the Charnau side has run into the nature of a roll, only with coal all through. The Charnau and south level are held into one another in the headways.—Helen Pit: This pit reached a depth of July 31 of 33 ft. 0½ in., being 39 ft. 5 in. below the bottom of the No. 1 seam. The progress may appear to have been rather slow this month, but we have been greatly retarded by the water increasing, and we have also drawn a few coals during the month, and it is impossible to keep the water down and draw coals and sink, so I have stopped all coals coming out except for the supply of the Helen engine until the No. 2 seam is reached. The stone in the seam has continued all along to be full of slips or jacks, thus causing us not only to have to cut and timber all the way down as before, but causing the shaft to be continued the full size to enable walling to be put in, whereas it was anticipated that when we got into the solid stone the size of the pit could be reduced, thereby enabling us to get on much faster and without the further time and expense incurred in walling. No. 5 boring reached a depth on July 31 of 422 ft., but owing to the winches which are old breaking on several occasions, and also the hole filling up with sand falling from above very little work has been done. During the time the winches were being repaired the men were employed on other work. This boring has been going very much better lately, but still the stone head has not been reached, but only red and purple clay and thin beds of conglomerate. During the latter end of the month we were employed in putting longer legs over the hole to be able to change more rods at a time, as at the depth the hole now is, and only having hand labour the process of changing the chisels and putting in the pumps to clear the hole very tedious. It is possible that it may be necessary to pipe this hole part of the way.

**PIERREFITE.**—Manager, Sept. 9: Since my last report we have broken 695 tons of ore, and brought to the dressing-rooms 675 tons. We have dressed 75 tons 6 cwt. of lead, and hand-picked 12 tons of blonde. Since the beginning of last week a great change for the better has occurred in the value of the lode in places, especially in Nos. 2 and 3 stopes, below the No. 1 adit level, north-west of the slide, where we find under what appeared to be the footwall of the lode another layer of mineral. Until then, and for a few weeks past, the lode at these points was worth only about 25 cwt., of lead per fathom. Now it is worth at least 5 tons per fm. In a rise which is being put up about 25 metres south-east of the slide there is also a very good lode, which I calculate to be worth about 4 tons of lead per fm. But the stopes generally in the back of the level are not as good as they have been. They average about 1 ton of lead per fathom. The rise going up to communicate with the winze below No. 1 adit level is now up 15 metres; we have about 10 metres more to rise. In the north mine there is but little change. We have had some rain lately, and we can work the stone-breaker by water-power, and for a day or two last week we worked on one of the crushers by the same means. But the supply of water is getting low again. I am pleased to tell you all the machinery is going well. The electric light is becoming very useful, as we are working at both the middle and upper floors by night now.

**PITANGUI GOLD.**—A telegram dated Rio de Janeiro, Sept. 10, states that the produce for August was 700 tons of gold, worth, at \$6. 6d. per oz., 2977. 10s. PITANGUI GOLD.—A telegram dated Rio de Janeiro, Sept. 10, states that the produce for August was 700 tons of gold, worth, at \$6. 6d. per oz., 2977. 10s. **PORT PHILLIP AND COLONIAL GOLD.**—July 28: Total quartz crushed for the month ending July 11, 1575 tons. Total gold obtained, 500 ozs. 1 dwt. 12 grs.; average per ton, 8 dwt. 4 grs.; receipts (including 763. 18s. 5d. obtained from tributaries) 2050. 16s. 1d.; profit, 79. 2s. 7d.

**POTOSI.**—Thomas Kelly, Aug. 12: The mill started on Aug. 7 with 30 stamps, six pans, and three settlers, and has been running very satisfactorily considering that everything is new. With the exception of stopping occasionally to tighten belts, &c., the machinery works well and without a hitch. We have great trouble with the plates, they appear to have been rolled cold and not properly annealed, and are, therefore, hard, and it will be some time before we can expect fair work from them. We are working on the ore from the Peru lode from the outcrop, which is poor, and using up the material taken from the Peru shaft, and shall be obliged to continue working on this in consequence of want of pumping-power both in the Peruvian and Chile shafts. The water from the Peru shaft is running the mill, and the pump from the Poco del Dantes will be brought from there and put in the Ohlio shaft to enable the sinking to be carried on. We expect to get the pump at work in about 10 days. The lode in the Chile shaft is now 15 in., and is increasing again, but we must go down about 80 to 100 ft. deeper before forming stopes, as the walls are soft. During the first two days' run 23½ ozs. of amalgam were obtained from the inside plates, but the tables gave nothing. The third day's run of 15 hours gave 24½ ozs. of amalgam, and the tables are catching a little and getting into better working order. We are just now cleaning up (Sunday) and expect about the same quantity of amalgam. All particulars of the run of the mill, and gold obtained will be sent next mail, by which time I hope everything will be in good working order.

**RHODES REEF GOLD.**—Aug. 17: The manager reports: We have now all the ground properly secured about the tunnels, reef, &c. No. 4 drive south in No. 2 tunnel has been driven for the week 5 ft.; No. 4 tunnel 8 ft.; and No. 3 tunnel 8 ft. No. 5 tunnel and the rise up to the surface are being driven on wages, and have made fair progress. The quartz in the end of No. 4 drive is improving, and the reef is widening out. I started the mill crushing yesterday, also the Chilian mill and amalgamator. I want to crush 300 to 400 tons I have selected, and treat some 60 tons of pyrites we have on hand.

**RICHMOND CONSOLIDATED.**—Telegram, Sept. 11: Week's run (one furnace), \$18,000, from 285 tons of ore; refinery, \$15,000.

**SAN JUAN.**—Longley, Aug. 20: The 100 south drift from station has been run 13 ft. Total 634 ft. In limestone. The 100 north-west drift from above has been run 15 ft. Total 138 ft. On fissure in limestone. The 1050 north-west drift from above has been run 27 ft. Total 35 ft. On fissure in limestone. The 1050 south-east drift (No. 1) has been run 22 ft. Total 194 ft. On fissure in limestone. The 1050 south-east drift (on fissure) from rise to 900 winze has been extended 26 ft. Total 100 ft. In limestone.

**RUBY AND DU**

## MINING MACHINERY, MILLING MACHINERY

Of the MOST APPROVED AMERICAN PATTERNS.

### GOLD MILLS.

The California pattern of Gold Stamp Mill is universally accepted as the most perfect, economic, and efficient made.

We have over 900 stamps in successful work in the various Western Gold Districts.

### SILVER MILLS.

Silver amalgamation in Pans is essentially an American system evolved after years of work on the rich silver mines of Nevada.

We have over 500 Stamps, with necessary pans, settlers, roasting furnaces, &c., all of our own manufacture, at work in different silver camps of the United States, Mexico, and South America, and Phillipine Islands, Asia.

### CONCENTRATION MILLS

Of the most approved German pattern and arrangement, or with Stamps and Frue Vanner Concentrators for low grade silver ores, light in lead. We have over 20 large German pattern mills at work on lead, zinc, or copper ores, and numerous Vanner mills on ores never before successfully concentrated.

**Mining Pumps**, Cornish pattern, of the largest sizes. **Hoisting Engines**, from 4 h.p. up to the largest direct-acting engines to sink 3000 feet.

### SMELTING WORKS.

We have 80 Water Jacket Smelting Furnaces in use from 20 in. circular up to 54 in. by 60 in. for lead and silver smelting; and special High Jacket Furnaces for copper ores.

**Engines** of any size, plain slide valve, Corliss, compound Corliss, Boilers, all sizes. **Leaching Mills**, **Hallidie Wire Rope Tramways**. **Comet Crusher**, with capacity of 12 to 20 tons per hour. **White, Howell, Bruckner, and Stetefeld Roasting Furnaces**, &c.

We have had twenty years' experience in the manufacture solely of MINING MACHINERY, and have special facilities for shipping to all foreign parts through our New York Office, where all details of clearance, shipment, and insurance are conducted. Our machinery is already well known in Mexico, Peru, Chili, Venezuela, Honduras, and other South American countries.

Correspondence solicited. Descriptive Circulars and Catalogues on application.

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COLORADO OFFICE—CHEESMAN BLOCK, DENVER.

**METROPOLITAN DISTRICT RAILWAY.**—In discussing the present position of this undertaking, Mr. William Abbott, of Tokenhouse Yard, says: Reviewing the whole position there appears to be an abundant reason for anticipating a great development in the near future of this railway, and that it will soon enter upon a career of great prosperity. It is inevitable that the line must be materially strengthened and permanently benefited by the numerous sources of traffic indicated, and regarding it simply as a reversionary security, and by analogy the Ordinary Stock (which amounts to only one-third of the entire capital of the railway) could scarcely be regarded as dear at 8 per cent. higher than the present price of 62, as even at 70 it would then be selling at 14s. in 17.

Concisely stated the favourable features may be thus summarised:—(1.) The approaching opening of the "Inner Circle," when the new capital embarked in it will at once become productive.—(2.) The reduction of working expenses consequent upon the opening of the "Inner Circle," which will enable the trains to work continuously, and to dispense with the change of engines and other costly expenses at the termini, which are now necessary. As compared with the Metropolitan Railway, there is room for a reduction of 5 per cent. in the working charges, and this will, no doubt, gradually be attained.—(3.) The rapid growth of the West London and suburban districts served by the District Railway.—(4.) The favourable working arrangements with the Great Western and other leading companies.—(5.) The establishment of annual exhibitions to succeed the Fisheries Exhibition of this year.—(6.) The abatement of the Passenger Duty. During the past half-year the amount paid by this company was 4700*l.* It is probable that this will gradually be reduced to a charge of 5000*l.* per annum.—And (7) the almost certainty that after the physical union of the Metropolitan and the Metropolitan district systems by the completion of the "Inner Circle" the shareholders of both companies will insist upon amalgamation.

Under the circumstances, and in view of the demand for low-priced stocks of English railways, which have in them latent vitality, it is by no means unreasonable to look for a substantial rise in the Ordinary Stock of the Metropolitan District Railway before the close of the year. I think it quite probable it will reach 67 to 70 by that time, and a very much higher price when the "Inner Circle" is completed in March next.

**ELECTRICITY AS A MOTIVE POWER.**—The record of the successful result of the first experiment with electric trams over a long distance made at Paris, is quickly followed by the report of equally successful application in Scotland of electricity to marine propulsion. It will be recollected that the Paris electric trams attained a speed of about 10 miles an hour, whilst it was estimated that the cost was about half that of horse trams. The soundless progress of the cars created much astonishment. Not a single horse shied throughout the entire route. The locomotion is effected by means of Faure accumulators, weighing some 60 cwt., which are fixed under the tramway seats, and connected with a Siemens machine placed under the floor. The speed of the electric tramcar is nine and a third miles an hour on level ground, and five and a half miles on an ascent. The company which made the experiment promise still greater things on railways, and feel confident of performing them. Within the past week Messrs. Bogle and Co., of Glasgow, are reported to have successfully tried one of their electric launches on the Clyde. It was driven by Clarke's patent battery and engine, Mr. Clarke, the patentee, himself, both managing the machinery and steering the boat. The speed attained in the smaller boats is said to have been from five miles to seven miles an hour. Major MacIver has ordered a 15-ft. launch built in Illinois to be fitted with Clarke's patent machinery, and if this be successful Messrs. Bogle are to construct a much larger vessel for him, which it is intended to take through the canal between the Rhine and the Danube, and next year to make the trip from the German Ocean to the Black Sea, through these rivers and their artificial junction. The large boat will be designed for a speed of 10 miles an hour, and will take several months to construct, but the smaller one will probably be seen on the Thames before the end of October. Major MacIver believes himself capable of making the trip from ocean to ocean in about three weeks, and intends to do so without any assistance whatever.

### NORTH STAFFORDSHIRE. VALUABLE MINERAL PROPERTY.

**M. R. SAMUEL EDWARDS WILL OFFER FOR SALE, BY AUCTION**, at the North Stafford Station Hotel, Stoke-upon-Trent, on Wednesday, the 3rd day of October, 1883, at Four o'clock in the afternoon, precisely, the WHOLE OF THE VALUABLE LEASEHOLD IRONSTONE MINES and COLLIERIES, OFFICES, BUILDINGS, ENGINES, MACHINERY, and PLANT of the

### KNUTTON FARM MINING COMPANY.

Situate at Knutton Heath, near Newcastle-under-Lyme, in the parish of Wolstanton, in the county of Stafford.

The mines are held under a lease of which 29*1/2* years are unexpired, and comprise the most valuable Red Mines of the district, namely—The Bassey Mine, or Blackband Coal and Ironstone; the Red Shag Coal and Ironstone, and the Red Mine; also valuable beds of brick earth, clay, and marl.

The Buildings, Machinery, and Plant comprise Offices, Machine House, three four-stall Stables, one three-stall ditto, Blacksmiths' and Carpenters' Shops, and Sharpening Shop, and Engines for Pumping, Winding, and Sawing, Donkey Engines, Clay Mill, and Capstool, Engines, Boilers, Mortar Mill, Wagons-Horses, &c.

The whole of the plant is of the most approved description, and in excellent condition.

The property is in close proximity to the Market Drayton Branch of the North Staffordshire Railway, to which the vendors have a right of access, and adjoins mines of the Rev. Walter Sneyd, which are now worked by the Butterley Company.

To view, apply to the Manager, at the Colliery, where the working plans may be inspected.

Particulars of sale and any further information may be obtained at the office of the company, Silverdale, Staffs; at the place of sale; of the Auctioneer, Ironmarket, Newcastle-under-Lyme; and of Messrs. COOPER, Solicitors, Newcastle-under-Lyme, and 42, Bedford-row, London, W.C.

### BOTALLACK, CORNWALL, OCTOBER 2ND.

**M. R. W. HOSKEN RICHARDS** has been favoured with instructions TO OFFER FOR SALE, BY AUCTION, at the Union Hotel, Penzance, on Tuesday, the 2nd October, 1883, at Three o'clock in the afternoon, in One Lot, as a going concern, all the

### MINING SETTS, MACHINERY, PLANT, AND MATERIAL

Of the far-famed and well-known BOTALLACK MINE, situate in St. Just-in-Penwith, Cornwall.

The sets, which have been recently renewed, extend upwards of two miles, and comprise Wheal Cock, Carnyorth, the Higher Mine, and the Crown.

The Plant and Machinery are in efficient working order, having four Pumping and Three Winding Engines, two Steam Stamps, and all the necessary appliances for developing the mine.

Further particulars may be obtained on application to the Parson, Mr. S. H. JAMES, St. Just; of the Auctioneer, 54 and 55, Causewayhead, Penzance; or of Mr. THOMAS, Solicitor, Penzance.

Dated 3rd September, 1883.

### TIN MINES, PUMPING AND STAMPING ENGINES, MACHINERY AND PLANT, FOR SALE.

**T**HE LIQUIDATOR of the ROCKS TIN MINING COMPANY (LIMITED) is prepared to RECEIVE TENDERS for the PURCHASE of the

### ROCKS TIN MINE AND THE CARNSMERRY TIN MINE,

Both situate near St. Austell, Cornwall, with the PUMPING and STAMPING ENGINES, STAMPS, and MACHINERY, which have recently been erected at a great expense.

The mines are held under separate leases. New leases on favourable terms would be granted to purchasers. The two mines are contiguous, but have independent shafts and machinery, and will be sold together or separately.

The Liquidator will also consider Tenders for the Engines, Stamps, Machinery, Plant, Tramway Rails, and Stock as a whole or in separate lots.

Tenders (to be endorsed on envelope—"Tenders, Rocks Mining Company") will be received up to the 30th of September by JOHN CARNEGIE, Esq., Solicitor, 9, Bucklersbury, London, E.C., who will furnish full particulars, schedules of engines and machinery, and cards to view the property.

The Liquidator does not bind himself to accept the highest or any Tender.

### CHARLESTOWN IRONWORKS, ST. AUSTELL.

**T**HE TRUSTEES are open to RECEIVE OFFERS for the PURCHASE of these old-established and valuable

### IRON AND BRASS FOUNDRY AND ENGINEERING WORKS,

As a going concern, with the GOODWILL and BUSINESS CONNECTION.

The works are in full operation, and are doing a large first-class business.

For particulars, apply to M. LOAM, Esq., Parade House, Liskeard; or to Messrs. ROBERTS and DICKSON, Solicitors, Chester.

### WHITE CLIFF LEAD MINING COMPANY (LIMITED).

#### IN VOLUNTARY LIQUIDATION.

**F**OR SALE, the LEASES, PLANT, and MACHINERY of the above Property, comprising about SEVENTY-EIGHT ACRES of VA-  
LUEABLE LEAD-BEARING GROUND (including a silver lode), known as THE RALLTWEIN and CORLAN FARCHOG MINES,

Situate near LLANRWST, in CARNARVONSHIRE, held under two leases, having about 14 years unexpired, from the Baroness Willoughby D'Eresby. First-class self-acting dressing machinery, by Green, of Aberystwith, including engine and boiler, stone-breaker, crusher, jiggers, buddles, cisterns, steam pump, &c., &c., the whole very complete and in good working order, capable of dressing 600 tons of ore/stuff per month, erected at a cost of £1500. Also about two miles of iron rails, forming tramway between the two sets, and various other mining plant, tools, &c., the whole to be sold, a bargain.

Apply to the Liquidators, care of A. C. COX, Chartered Accountant, 2, Temple-street, Birmingham.

### STEAM AND WATER POWER MILLS.

**T**o BE LET, for such term as may be agreed on, ALL THOSE MODERN and VALUABLE MILLS, situate in Bishop's Wood and Lord's Wood, about two miles from the City of Truro.

These Mills, originally intended for the manufacture of gunpowder, were erected about 15 years ago. They are partly worked by water power and partly by machinery of the most modern description: and if not required for their original purpose they are very easily convertible for any other use of a similar nature.

The ground on which the mills, &c., are erected is held for terms of years at very moderate rents.

For cards to view and for all further information, apply to Messrs. CHILCOTT and Son, Solicitors, Truro.

Truro, 23rd August, 1883.

### PIT SINKING, WINDING COAL, PUMPING, &c.

**P**ORTABLE STEAM ENGINE FOR SALE, with two 9*1/2* inch cylinders, and link motion reversing gear, also gear to wind and pump.

9 H.P. VERTICAL STEAM ENGINE, with link motion reversing gear (winding drum if required).

A 6 ft. pan MORTAR MILL, VERTICAL ENGINE, and BOILER combined on carriage and travelling wheels.

Apply to—

### BARROWS AND STEWART, ENGINEERS, BANBURY.

**F**OR SALE, very good 40 inch cylinder PUMPING ENGINE, TWO AIR COMPRESSORS, ONE ORE CRUSHER, and a 10 ton FLY WHEEL and SHAFT.

Apply to CORNELIUS BAWDEN, Redruth.

**S**TEAM BOILERS FOR SALE, SECONDHAND, with and without Galloway Tubes, single and double riveted, working pressure of 60 lbs., 65 lbs., 70 lbs., and 80 lbs. steam pressure. VERY CHEAP.

FIVE BOILERS, 30 feet by 7 feet 6 inches diameter, excellent order.

SIX BOILERS, 30 feet by 7 feet Galloway Tubes,

FOUR BOILERS, 28 feet by 7 feet

THREE BOILERS, 26 feet by 7 feet

FOUR BOILERS, 24 feet by 6 feet 6 in.

And other sizes in stock. Equal to new.

WINDING ENGINES and COLLIERIES PLANT of every description, second-hand, in stock. VERY CHEAP. WIRE TO—

H. HELLEWELL and CO., LTD., NORTH CORRIDOR

ROYAL EXCHANGE, MANCHESTER.

**O**N SALE.—FOUR LANCASHIRE BOILERS, 30 feet by 7 feet. Shells double riveted, and Bowring expansion rings in flues.

THREE ditto, 30 feet by 7 feet, with plain flues.

THREE ditto, 30 feet by 7 feet 3 inches, with six Galloway tubes in each flue.

THREE ditto, 26 feet by 7 feet, with four Galloway tubes in each flue.

EDWARD RATCLIFFE, HAWARDEN, NEAR CHESTER.

**O**N SALE.—THREE LANCASHIRE BOILERS, 32 feet by 6 feet 9 inches; now working at 70 lbs. under Insurance, near Manchester. Cheap if taken at once.

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### COAL MINES REGULATION ACT, 1872.

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DISTRICT UNDER THE CHARGE OF THOMAS EVANS, Esq., H.M. INSPECTOR OF MINES.

PERSONS desirous of being EXAMINED in this District for MANAGERS' CERTIFICATES OF COMPETENCY, under the above-named Act, should at once COMMUNICATE with the Secretary to the Board of the above-mentioned District, at the following address:—The Wardwick, Derby.

WILLIAM SAUNDERS, Secretary.

N.B.—Persons who do not reside within the District are equally eligible for examination with those who do.

**R**YAL COLLEGE OF SCIENCE FOR IRELAND  
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SCIENTIFIC AND TECHNICAL EDUCATION.

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This College supplies a complete Course of Instruction in Science as applied to the Industrial Arts, especially those which may be classed broadly under the heads of CHEMICAL MANUFACTURES, MINING, and ENGINEERING.

A Diploma of Associate of the College is granted at the end of the Three Years' Course.

There are Four Royal Scholarships, tenable for two years, each of the value of £50 yearly, with free education, including Laboratory Instruction. Two become vacant each year. They are given to Students who have been a year in the College.

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Alfred Nobel



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IS RECOMMENDED TO CONTRACTORS, MINERS, PIT SINKERS, QUARRYMEN, AND OTHERS, AS BEING THE SAFEST, CHEAPEST, AND STRONGEST OF ALL EXPLOSIVES.

TONITE is the most efficient and economical blasting agent ever invented, and is largely in demand. It does not contain any Nitro-glycerine, and is, therefore, exempt from the dangers of exudation, or of freezing and its attendant process of thawing.

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Of the HIGHEST DESCRIPTION, and of the maximum strength allowed by the British Explosives Act (75 per cent. Nitroglycerine).

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GENERAL MANAGERS Mr. C. F. CARSTENS, Mr. C. WICHMANN, Late Partner of Messrs. Bessler, Waechter, and Co., London.

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The Pacific Water Jacket Smelters embrace many features that are entirely new and of great practical utility, which are secured by letters patent.

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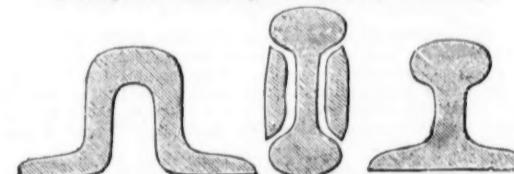
of them are now running in the various mining districts of the United States, giving results never before obtained as regards continuous running, economy of fuel grade and quality of bullion produced.

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Complete smelting plants made to order, with all the improvements that experience has proved valuable in this class of machinery. Skilled and experienced smelters furnished when desired to examine mines and to superintend constructing and running of furnace. Estimates given upon application. Send for circular.

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J. JACKSON, Manager.

## THE MINING SHARE LIST.

## BRITISH DIVIDEND MINES.

Shares.	Paid.	Last wk.	Clos. pr.	Total divs.	Per sh.	Last pd.
3200 Blue Hills, <i>t</i> , St. Agnes	4	6	12	34	5%	May 1883
6000 Carr Bras, <i>c</i> , Illogan <sup>†</sup>	11	7	11	63	5%	May 1883
4000 Craignant Bach, <i>t</i> , Cardigan	5	0	—	—	—	Nov. 1882
10240 Devon St. Consols, <i>c</i> , <i>a</i> , Tavistock <sup>†</sup>	1	0	—	34	23	Nov. 1882
4700 Dolcoath, <i>c</i> , Camborne	10	10	67	65	67%	Dec. 1882
6400 East Pool, <i>t</i> , Illogan	0	9	42	40	41xd.	Sept. 1883
12000 Great Holway, <i>t</i> , Flintshire	5	0	—	54	5%	July 1883
15000 Great Lazey, <i>t</i> , Isle of Man <sup>†</sup>	4	0	—	16	15	Dec. 1882
4400 Green Hurth, <i>t</i> , Durham <sup>†</sup>	0	6	6	6	6%	May 1883
9830 Gunnislake (Clitters), <i>t</i> , <i>c</i>	2	2	0	1	1%	Sept. 1880
2800 Isle of Man, <i>t</i> , Isle of Man <sup>†</sup>	25	0	—	—	—	Sept. 1880
6000 Killifret, <i>t</i> , Chacewater	4	3	6	2	13%	June 1883
2000 Leadhills, <i>t</i> , Lanarkshire	0	0	—	23	23%	Feb. 1883
4000 Lisburne, <i>t</i> , Cardiganshire	18	15	0	65	0	June 1883
10000 Melinare, <i>c</i> , Hawley	2	0	—	3	3%	July 1883
9000 Minera Mining Co., <i>t</i> , Wrexham <sup>†</sup>	5	0	—	6	3	Feb. 1883
20000 Minera Co. of Ireland, <i>c</i> , <i>c</i> <sup>†</sup>	7	0	—	24	0	Jan. 1883
11829 North Hendre, <i>t</i> , Wales	2	10	0	—	—	Nov. 1882
8146 Ditto	—	—	—	3	18	Feb. 1883
2000 North Levant, <i>t</i> , St. Just	13	6	—	24	13%	Feb. 1883
4760 Penhale, <i>t</i> , St. Agnes	4	0	—	54	5%	May 1883
12050 Phoenix United, <i>t</i> , Linkinhorne	6	0	—	25	25%	July 1883
12000 Roman Gravels, <i>t</i> , Salop <sup>†</sup>	7	10	0	64	7%	May 1883
50700 South Cardron, <i>c</i> , St. Cleer	1	0	—	13	1%	—
8123 South Conduor, <i>t</i> , Camborne	7	5	7	8	8%	Aug. 1883
9000 South Darren, <i>t</i> , Cardigan	1	16	0	75	3%	Apr. 1880
6000 Tincroft, <i>c</i> , Pool, Illogan <sup>†</sup>	12	10	7	65	7%	Dec. 1881
5000 Van, <i>t</i> , Llandilo <sup>†</sup>	4	5	5	5	5%	July 1883
2000 West Holway, <i>t</i> , Flintshire	1	0	—	1	1%	Oct. 1881
6000 West Rassel, <i>c</i> , Illogan <sup>†</sup>	7	10	4	5	4%	Apr. 1882
6000 West Kitty, <i>t</i> , St. Agnes	0	12	0	13	13%	July 1883
12000 Wheal Croesor, <i>t</i> , Tavistock	2	0	—	24	2%	July 1883
1024 Wheal Eliza Consols, <i>t</i> , St. Austell	18	0	—	—	—	May 1883
6000 Wheal Grenville, <i>t</i> , Camborne	15	0	—	64	6%	Sept. 1883
4295 Wheal Kitty, <i>t</i> , St. Agnes <sup>†</sup>	5	12	0	13	12	Jan. 1881
3890 Wheal Pever, <i>t</i> , Redruth <sup>†</sup>	10	1	0	34	3%	Mar. 1883

## FOREIGN DIVIDEND MINES.

Shares.	Paid.	Last wk.	Clos. pr.	Total divs.	Per sh.	Last pd.
35500 Alamillos, <i>t</i> , Spain <sup>†</sup>	2	0	—	17	17%	Sept. 1883
130000 Almada and Trito Consol., <i>s</i> <sup>†</sup>	1	0	—	54	5%	May 1876
20000 Australian, <i>c</i> , South Australia <sup>†</sup>	7	5	6	25	3%	Aug. 1883
15000 Birdseye Creek, <i>g</i> , California <sup>†</sup>	4	0	—	14	14%	Dec. 1882
20000 Bratberg, <i>c</i> , Norway	2	0	—	24	24%	Sept. 1883
130000 California, <i>s</i> , Colorado	1	0	—	24	24%	Sept. 1883
20000 Cape Copper Mining, <i>s</i> , South Africa	8	0	—	52	49	May 1883
45000 Colorado United, <i>s</i> , Colorado <sup>†</sup>	2	0	—	24	24%	Sept. 1883
50000 Copiapo, <i>c</i> , Chile <sup>†</sup> (24 shares)	3	10	0	34	34%	Sept. 1883
70000 English & Australian, <i>c</i> , S. Aust. <sup>†</sup>	2	0	—	—	—	Sept. 1883
25000 Eng.-Aus., <i>c</i> , Vict. <sup>†</sup> pref. (20000 s.)	1	0	—	—	—	Sept. 1883
25000 Fortune, <i>t</i> , Spain <sup>†</sup>	2	0	—	34	3%	Sept. 1883
22000 Frontino & Bolivia, <i>g</i> , New Gran. <sup>†</sup>	2	0	—	14	14%	Sept. 1883
216000 Henriot, <i>t</i> , Leadville, Colorado	1	0	—	—	—	Feb. 1883
200000 La Plata, <i>s</i> , Leadville	2	0	—	24	24%	Sept. 1883
50000 Linares, <i>t</i> , Spain <sup>†</sup>	3	0	—	34	3%	Sept. 1883
20000 Marbella Iron Ore, <i>t</i> , Spain	10	0	—	23	23%	June 1882
165164 Mason & Harry's, <i>c</i> , Portugal	10	0	—	15	14%	May 1883
865985 Quibaid, Rail, Land & Cop. Venezuela	10	0	—	85	8%	6 per cent.
50000 Panucillo, <i>c</i> , Chile <sup>†</sup>	4	0	—	64	6%	Sept. 1883
25000 Pitangui, <i>t</i> , Brazil (in 6000 £1 pd.)	0	10	—	—	—	Sept. 1880
14000 Pontgibaud, <i>s</i> , France <sup>†</sup>	20	0	—	10	8	Sept. 1882
100000 Port Phillip, <i>s</i> , Clunes <sup>†</sup> (2 shares)	1	0	—	54	5%	Feb. 1881
50000 Rara Fortuna, <i>s</i> , Argentine Republic	1	0	—	—	—	July 1883
54000 Richmond Consol., <i>s</i> , Nevada <sup>†</sup>	5	0	—	54	5%	Aug. 1883
245522 Rio Pinto, <i>s</i> , Mortgage Bds., Huelva <sup>†</sup>	100	0	—	102	101	5 per cent.
825000 Ditto, shares	10	0	—	21	20	21% (20/21%)
40000 Santa Barbara, <i>s</i> , Brazil	0	10	—	—	—	May 1882
120000 Scottish-Australian Mining Co. <sup>†</sup>	1	0	—	24	24%	May 1883
80000 Ditto, New	0	10	—	14	14%	May 1883
225000 Sierra Buttes, <i>g</i> , California <sup>†</sup>	2	0	—	13	13%	May 1883
406255 Ditto, Plumas Eureka	2	0	—	14	14%	Sept. 1883
253000 St. John del Rey (1/25 Stock and multiple deb't in)	90	100	—	50	50	5 p.c. for half-year, Jun.
100000 Tamarac, <i>t</i> , Venezuela	1	0	—	15	15%	Sept. 1883
166000 Tambacherry, <i>g</i> , Wynaad	1	0	—	15	15%	Sept. 1883
625040 Tharsis, <i>c</i> , sul, Spain (587320 issued)	2	0	—	64	6%	May 1883
20000 Tolima, <i>s</i> , Colombia (A & Bshares)	5	0	—	64	6%	July 1883
25000 Victoria <sup>†</sup> , London, <i>g</i> , Australia	1	0	—	—	—	Sept. 1883
100000 Victorian (Nevada, U.S.) Deb. Bds. <sup>†</sup>	1	0	—	—	—	Sept. 1883
50000 Western Andes, <i>s</i> , Colombia	5	0	—	54	5%	Aug. 1883
21000 W. Prussian (5500 pref. sh. 210 pd.)	10	0	—	75	7%	4 per cent.
84100 Yorke Pen., <i>c</i> , South Aust. Pref. <sup>†</sup>	1	0	—	14	14%	May 1882

<sup>†</sup> Have made calls since last dividend was paid.

## NON-DIVIDEND BRITISH MINES.

Shares.	Paid.	Last wk.	Clos. pr.	Paid.	Last wk.	Clos. pr.
25000 Aberduna, <i>t</i> , Denbigh	1	10	0	13	13	13
30000 Alston United, <i>t</i> , Cumberland	1	0	—	—	—	—
12000 Anderton, <i>t</i> , <i>c</i> , Devonshire	1	0	—	14	14	14
12000 Assheton, <i>t</i> , Carnarvonshire	5	0	—	—	—	—
12000 Bedford Univ., <i>t</i> , Taxis (£1 lab.)	0	14	0	14	14	14
20000 Boddiris, <i>t</i> , <i>b</i> , Denbighshire	1	0	—	—	—	—
10000 Brada, <i>t</i> , Isle of Man	1	0	—	—	—	—
20000 British Manganese Company <sup>†</sup>	1	0	—	34	34	34
30000 Beacons, <i>s</i> , Flintshire	1	0	—	14	14	14
20000 Bwich United, <i>t</i> , Cardigan	1	0	—	14	14	14
12000 Collicombe Consols, <i>c</i> , <i>b</i> , Lamerton	0	2	8	54	54	54
20000 Carn Camborne, <i>t</i> , Camborne	1	0	—	14	14	14
20000 Carnarvon, <i>c</i>	1	0	—	34	34	